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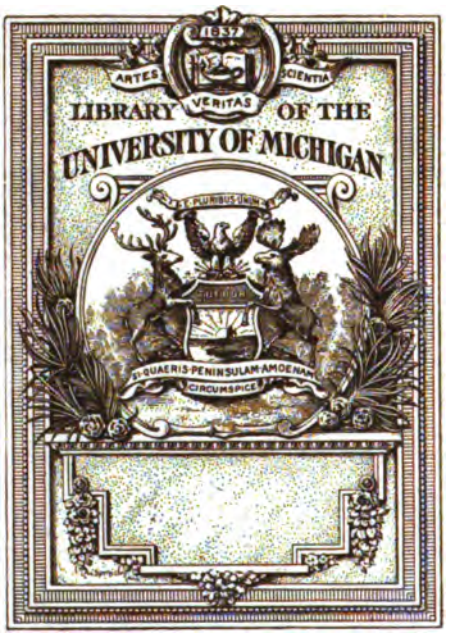
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VOCATIONAL EDUCATION

REPORT

OF THE

U.S.

COMMISSION ON NATIONAL AID TO VOCATIONAL EDUCATION

TOGETHER WITH THE

HEARINGS HELD ON THE SUBJECT

MADE PURSUANT TO THE PROVISIONS OF
PUBLIC RESOLUTION NO. 16, SIXTY-THIRD CONGRESS
(S. J. RES. 5)

IN TWO VOLUMES

VOLUME 1. REPORT OF THE COMMISSION

JUNE 1, 1914.—Referred to the Committee on Education
and ordered to be printed

WASHINGTON
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1914

COMMISSION

ON

NATIONAL AID TO VOCATIONAL EDUCATION.

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SENATOR CARROLL S. PAGE.
REPRESENTATIVE D. M. HUGHES.
REPRESENTATIVE S. D. FESS.
MR. JOHN A. LAPP.
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VOLUME 2.—HEARINGS BEFORE THE COMMISSION.

LETTER OF SUBMITTAL.

COMMISSION ON VOCATIONAL EDUCATION,
Washington, D. C., June 1, 1914.

To the Senate and House of Representatives
of the Sixty-third Congress:

The undersigned commission, created by act of Congress approved January 20, 1914, "to consider the subject of national aid for vocational education, and to report their findings and recommendations not later than June first, nineteen hundred and fourteen," respectfully beg leave to submit the following report.

HOKE SMITH, Chairman.
C. S. PAGE.
DUDLEY M. HUGHES.
S. D. FESS.
JOHN A. LAPP.
FLORENCE M. MARSHALL.
AGNES NESTOR.
C. A. PROSSER.
CHARLES H. WINSLOW.

REPORT OF THE COMMISSION ON NATIONAL AID TO VOCATIONAL EDUCATION.

FOREWORD AND SUMMARY.

FOREWORD.

CREATION OF THE COMMISSION.—The Commission on National Aid to Vocational Education was created by act of Congress approved January 20, 1914, authorizing the President of the United States to appoint a commission of nine members "to consider the subject of national aid for vocational education and report their findings and recommendations not later than June 1 next."[1]

Pursuant to this act the President of the United States appointed the following persons to serve as members of the commission:

Senator Hoke Smith, Georgia.
Senator Carroll S. Page, Vermont.
Representative D. M. Hughes, Georgia.
Representative S. D. Fess, Ohio.
John A. Lapp, director Indiana Bureau of Legislative Information, Indianapolis, Ind.; secretary of Indiana Commission on Industrial Agricultural Education, 1912.
Miss Florence M. Marshall, director Manhattan Trade School, New York City; member of Massachusetts Factory Inspection Commission, 1910.
Miss Agnes Nestor, president International Glove Workers' Union, Chicago, Ill.; member Committee on Industrial Education, American Federation of Labor.
Charles A. Prosser, secretary National Society for the Promotion of Industrial Education, New York City.
Charles H. Winslow, special agent, Bureau of Labor Statistics, Washington, D. C.; member of Massachusetts Commission on Industrial Education, 1906–1909.

ORGANIZATION OF THE COMMISSION.—The commission organized April 2, 1914, by electing Hon. Hoke Smith, Senator from Georgia, as chairman. Mr. Ernest A. Wreidt, director of the Public Education Association, New York City,[2] was appointed secretary April 17, 1914. An office and statistical staff of 45 persons was engaged to assist in the work.

THE SHORT TIME AVAILABLE made necessary continuous sessions of the full commission practically every morning, and the organization

[1] Following is public resolution No. 16, 63d Cong. (S. J. Res. 5), providing for the appointment of the commission:

"*Resolved by the Senate and House of Representatives of the United States of America in Congress assembled*, That the President of the United States is hereby authorized to appoint a commission, consisting of nine, whose duty it will be to consider the subject of national aid for vocational education and report their findings and recommendations not later than June first next.

"2. That the members of said commission shall be paid their actual traveling expenses and subsistence while engaged upon the work of the said commission.

"3. That said commission shall have authority to employ a secretary and to make such investigations into local conditions of the respective States as they deem necessary, the entire expense of the commission not to exceed the sum of $15,000.

"4. That the sum of $15,000, or so much thereof as may be necessary, be, and the same is hereby appropriated out of any money in the Treasury not otherwise appropriated to meet the expenses of the said commission."

[2] One of the authors of Report on Vocational Training in Chicago and Other Cities. City Club of Chicago, 1912.

of a subcommittee of the five noncongressional members who came to Washington from their regular duties elsewhere to give their entire time to the work. The subcommittee was in session practically every afternoon, and frequently at night. Whenever their duties permitted, the congressional members of the commission attended these afternoon sessions.

THE PERSONNEL OF THE COMMISSION was such as to permit of the rapid work necessary in the preparation of the report by the first of June. The congressional members of the commission brought to the work an interest in the problem, a knowledge of the previous discussions and legislation by Congress on the subject of vocational education, an understanding of the needs of the sections of the country which they represented, and a varying experience with agriculture, industry, commerce, and education. The noncongressional members brought the personal experience acquired in labor and industry, in the making of investigations, in the drafting of legislation, and in the administration of vocational schools; and a professional knowledge of the literature, the experiments hitherto made, and the needs and problems of vocational education.

THE SCOPE OF THE WORK.—Under the resolution creating it the commission decided at the outset to address itself to the following questions:

1. To what extent is there a need for vocational education in the United States?
2. Is there a need for national grants stimulating the States to give vocational education?
3. What kinds or forms of vocational education should be stimulated by national grants?
4. How far can the Federal Government aid through expert knowledge vocational education in the various States?
5. To what extent should the Federal Government aid the States through national grants for vocational education?
6. Under what conditions should grants to the States for vocational education be made?

THE TWO LARGE ISSUES raised by the above questions with which the commission must deal are:

1. *National grants to Federal agencies.*—How can the need, if any, best be met, of national grants for Federal agencies to enable them to assist the States through information and advice relating to vocational education?
2. *National grants to the States.*—How can the need, if any, of national grants to the States for vocational education be met?

ASSISTANCE THROUGH FEDERAL AGENCIES.—The possibility of national help to vocational education through the activities of Federal agencies was gone into very thoroughly in hearings and conferences with the representatives of the various departments and bureaus of the United States Government.[1]

In general the commission sought to learn from each of these departments what it had been doing through investigations and reports to aid vocational education in the country, what calls for information it was able to meet with present facilities, what, in its opinion, it could do and ought to do to help the States with their

[1] See Ch. IV, p. 55, and Appendix M, pp. 181 to 200. For the full account of the hearings and conferences see Hearings before Commission on National Aid to Vocational Education, Vol. 2 of this report, pp. 7-122.

problems, and what further appropriations would be necessary to equip it for this enlarged field of service. The commission was particularly anxious to get the opinion of these departments as to their respective place and relationship to each other, in making studies, and in furnishing information for use in vocational education by the States; the extent to which helpful cooperation between the bureaus had already been established; and the best method by which the different bureaus could work together more intimately in the future. The response of the various departments to the efforts of the commission to get the fullest information and opinion on the above questions has made possible in this report a very careful discussion and recommendation as to the use of national grants for vocational education through the service of Federal agencies in helpful lines of investigations and publications.[1] The commission wishes to express its hearty appreciation to the Federal departments and bureaus for their cordial assistance.

THE QUESTION OF NATIONAL GRANTS TO THE STATES for vocational education occupied the largest part of the time and attention of the commission. Its study of this matter has in general covered the following sources of information:

1. Questionnaires[2] to State, city, and county superintendents of public instruction and to national organizations of labor and representative employers.

2. Public hearings.[3] The brief time available made it necessary to confine these to one week, and to national organizations interested in the subject. Representatives of these national organizations received in advance of the hearings a list of questions upon which the commission desired information. All hearings were held in Washington.

3. Bibliography[4] of publications discussing the need and remedies for the need of practical education and the advisability of national grants.

The commission desires to express its hearty appreciation of the ready response to the appeals for information and advice through public hearings and questionnaires. The complete and prompt replies to questionnaires from organizations representing employers and labor, and from State, city, and county superintendents of public instruction, give evidence of the nation-wide interest in the subject of vocational education.

The specific findings of the commission and its recommendations for legislation are given below. The discussions supporting these recommendations will be found in the pages which follow, while the data on which the discussion and recommendations are based are presented mainly in the appendixes.

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[1] See Ch. IV, p. 55, and Appendix M, p. 181.

[2] Questionnaires were sent to the following:

1. To the State superintendent or other chief officer of education in each of the 48 States. (See Appendix K, p. 122.)
2. To five county superintendents of schools or other chief educational officials in representative agricultural districts in each of the 48 States. These five officials were, on request of the commission, selected by the State superintendents of public instruction. (See Appendix K, p. 130.)
3. To 599 superintendents of schools in cities or towns of more than 10,000 inhabitants. (See Appendix K, p. 126.)
4. To 104 national organizations of labor. (See Appendix K, p. 140.)
5. To 70 representative employers, 5 of whom were selected by each of 14 associations of manufacturers, representing some of the skilled, semiskilled, and unskilled industries. (See Appendix K, p. 137.)

[3] A full report of the hearings, with a list of persons appearing, is given in the Hearings Before the Commission on National Aid to Vocational Education, Vol. 2 of this report.

[4] See Appendix J, p. 118.

SUMMARY.

FINDINGS.

THE NEED OF VOCATIONAL EDUCATION.—While many different kinds and grades of vocational education will always be required, the kind most urgently demanded at the present time is that which will prepare workers for the more common occupations in which the great mass of our people find useful employment.

There is a great and crying need of providing vocational education of this character for every part of the United States—to conserve and develop our resources; to promote a more productive and prosperous agriculture; to prevent the waste of human labor; to supplement apprenticeship; to increase the wage-earning power of our productive workers; to meet the increasing demand for trained workmen; to offset the increased cost of living. Vocational education is therefore needed as a wise business investment for this Nation, because our national prosperity and happiness are at stake and our position in the markets of the world can not otherwise be maintained.

The social and educational need for vocational training is equally urgent. Widespread vocational training will democratize the education of the country: (1) By recognizing different tastes and abilities and by giving an equal opportunity to all to prepare for their life work; (2) by extending education through part-time and evening instruction to those who are at work in the shop or on the farm. Vocational training will indirectly but positively affect the aims and methods of general education: (1) By developing a better teaching process through which the children who do not respond to book instruction alone may be reached and educated through learning by doing; (2) by introducing into our educational system the aim of utility, to take its place in dignity by the side of culture and to connect education with life by making it purposeful and useful. Industrial and social unrest is due in large measure to a lack of a system of practical education fitting workers for their callings. Higher standards of living are a direct result of the better education which makes workers more efficient, thus increasing their wage-earning capacity.

An overwhelming public sentiment shows the need for vocationa education in this country. The testimony in this behalf comes froml every class of citizenship, from the educator, the manufacturer, the trades-unionist, the business man, the social worker, and the philanthropist. Every State superintendent of public instruction declared that its rapid extension was required for many different reasons in his State and great national educational, civic, industrial, and commercial organizations, representing more than 12,000,000 people, have repeatedly gone on record as believing that a system of vocational education was absolutely necessary to the future welfare of the nation.

THE NEED OF NATIONAL GRANTS TO THE STATES FOR VOCATIONAL EDUCATION.—While recognizing that training for all the different vocations is important and desirable, agricultural and trade and industrial education are most in need of national encouragement at the present time. The best way to aid the States in giving these kinds of vocational training is through grants for the preparation of efficient teachers and grants for the part payment of their salaries.

National grants are required for the salaries and the training of vocational teachers: (1) To help to solve a problem too large to be

worked out extensively and permanently save by the whole nation; (2) to help the States, with their widely varying resources, to carry the cost of giving vocational education and thereby to make this education possible in those States and localities already burdened with the task of meeting the requirements of general education; (3) to equalize among the States the large and unequal task of preparing workers whose tendency to move from State to State is making training for a life work a national as well as a State duty; (4) to give interest and prestige in the States to the work of preparing our youth for useful and productive service.

National grants for agricultural, and trade and industrial education are justified: (1) By the urgency of the demand for the effective training of our workers, which the States can not meet in time without Federal encouragement and aid; (2) by the interstate and national character of the problem, due to its nation-wide interest and importance; (3) by abundant precedent, in appropriations by Congress throughout our entire history, for educational purposes, and in cooperation between the Federal Government and the States, where team play was necessary to handling matters that could not be as well handled by the States alone; (4) by the successful results to the Nation as well as to the States of previous grants for educational purposes.

After six years of consideration of the question by Congress and the country an overwhelming public sentiment favors national grants. The favorable opinions given at the hearings and in answer to questions sent out by the commission to educators, employers and employees, and educational, civic, industrial, agricultural, and commercial organizations national in their scope, were practically unanimous.

THE NEED OF NATIONAL APPROPRIATIONS FOR STUDIES, INVESTIGATIONS, AND REPORTS.—The States are facing many new and difficult questions in connection with the efforts to develop agricultural, trade and industrial, commercial, and home economics education. One of the most valuable ways in which the National Government could aid the States in this work would be by national grants expended through Federal agencies for studies, investigations, and reports furthering the efforts of the States to place the work of their vocational schools on a scientific and business-like basis. As a Nation we are singularly lacking in this kind of information. European countries have gained much advantage over us because they are already in possession of this knowledge.

This help can best be secured from the Government. We can not rely upon individuals or national organizations to gather it. The States can not well deal individually with the matter. The work must be done by the National Government to secure the best results. If the Government makes grants to be expended in cooperation with the States for the benefit of any kind of vocational education, every consideration requires that the moneys expended in the venture should be accompanied with all the helpful knowledge that the Federal Government has gleaned or can glean from its studies.

While excellent work has been done by the different Federal agencies in furnishing information and advice to the country for vocational education, the service has been very greatly hampered by a lack of funds. There has to some extent been a lack of close, intimate cooperation between the different departments and bureaus in gathering and using the material. There seems to be more or less overlapping and duplication of effort, not conducive to the best results.

Not only are additional funds needed for the purpose of giving to the States the country-wide sources of information for vocational education in the most effective manner, but some of the Government departments should be organized in some way into a clearing house for the purpose of dealing collectively with the task, so as to have a clear understanding of the respective place and function of each department and bureau and the ways by which they can best cooperate in making their material of the greatest benefit to the States.

RECOMMENDATIONS.

I. Scope of the grants

1. That national grants be given to the States for the purpose of stimulating vocational education in agriculture and in the trades and industries.
2. That grants be given in two forms:
   a. For the training of teachers of agricultural, trade and industrial, and home economics subjects.
   b. For the paying of part of the salaries of teachers, supervisors, and directors of agricultural subjects and of teachers of trade and industrial subjects.
3. That appropriations be made to a Federal board for making studies and investigations which shall be of use in vocational schools.

II. Amount of the grants.

1. For the salaries of teachers, supervisors, and directors of agricultural subjects—that there be appropriated to the States the sum of $500,000 for the fiscal year 1915–16; this amount to be increased at the rate of $250,000 a year until a total of $2,000,000 is reached in the fiscal year 1921–22, and thereafter the annual increase to be at the rate of $500,000 a year until a total maximum appropriation of $3,000,000 is reached in 1923–24.
2. For the salaries of teachers of trade and industrial subjects—that there be appropriated to the States the sum of $500,000 for the fiscal year 1915–16; this annual amount being increased for each subsequent year in the same manner as the grants for the teachers of agricultural subjects, until the same maximum of $3,000,000 is reached in 1923–24.
3. For the training of teachers of agricultural, trade and industrial, and home economics subjects—that there be appropriated to the States the sum of $500,000 for the fiscal year 1915–16; $700,000 for the fiscal year 1916–17; $900,000 for the fiscal year 1917–18; $1,000,000 for the fiscal year 1918–19, and annually thereafter.
4. For the work of the Federal Bureau for Vocational Education—that there be appropriated $200,000 annually, this money to be used in administering the grants to the States and in furnishing information and advice to the States for use in vocational schools and classes.

The maximum in each case above is continued annually thereafter.

III. Kinds of schools aided by grants.

1. That the schools aided in part by the National Government should be schools supported and controlled by the public.
2. That the education given in these schools should be of less than college grade.

3. That they should be designed to prepare boys and girls over 14 years of age for useful or profitable employment in agriculture and in the trades and industries.

4. That the schools should be of three types in order to meet a variety of needs:

a. All-day schools in which practically half of the time should be given to actual practice for a vocation on a useful or productive basis.

b. Part-time schools for young workers over 14 years of age, which should extend either their vocational knowledge or give preparation for entrance to a vocation or extend the general civic or vocational intelligence of the pupils.

c. Evening schools to extend the vocational knowledge for mature workers over 16 years of age.

IV. Administration.

1. That the States, in order to receive national grants for vocational education, designate or create State boards, through whom the National Government would deal; the determination of such boards to be left entirely to the States.

2. That a Federal board be created, consisting of the Postmaster General, the Secretary of the Interior, the Secretary of Agriculture, the Secretary of Commerce, and the Secretary of Labor, with the Commissioner of Education as its executive officer, to administer the funds and to cooperate with the States in promoting vocational education.

V. Conditions.

1. That the Federal statute providing for national grants to the States for vocational education set up conditions safeguarding the proper expenditure of the money for the purposes designed and insuring a minimum degree of efficiency in the work.

2. That the States, through their legislative authorities, formally accept the conditions of the Federal statute providing national grants.

3. That the States provide for the proper custody and disbursement of the Federal grants allotted to them.

4. That the State board, with the approval of the Federal Board for Vocational Education, formulate plans for the administration of the grants in conformity with the provisions of the Federal statute, and establish minimum requirements for the State as to the qualification of teachers and the equipment of schools.

5. That for each dollar paid from Federal grants allotted to any State for the salaries of vocational teachers, or for the training of vocational teachers, the State or local community, or both, shall expend an equal amount for the same purpose, and shall in addition meet all other costs of plant, equipment, and maintenance, including the salaries of all teachers necessary to complete well-rounded courses of instruction.

6. That the State receive its allotment annually so long as it uses the funds allotted to it in conformity with the purposes and provisions of the Federal statute. Payment on allotments shall be made quarterly.

CHAPTER I.

THE NEED FOR VOCATIONAL EDUCATION.

INTRODUCTION.

The commission recognizes at the outset that the term "vocational education" is employed in current discussion to describe a wide variety of schools and training. For the purpose of this report, however, its use will be confined to that kind of practical education which the commission feels has been largely neglected up to the present time, and which most urgently needs encouragement, namely, that which prepares boys and girls for useful employment. In thus limiting the use of the term in its own work, the commission disclaims all intention of attempting to define the scope of vocational education as a whole, or of restricting its meaning for ordinary usage. It is clearly recognized not only that a stronger vocational element is needed in general education, but that no vocational school is worthy the name which fails to give a considerable amount of general education along with special preparation for a vocation. The purpose of restricting the term in this report is entirely that of securing clearness in the presentation of the findings and recommendations of the commission.

For the reasons hereinafter given, the commission is strongly of the opinion that the kind of vocational education which is most needed at the present time is that which is designed to prepare workers for the more common occupations in which the great mass of our people find useful employment. Vocational training, to be most effective and thoroughgoing, should be restricted to persons over 14 years of age who have laid the foundation of a general education in the elementary school. Because of the kind of workers to be reached and the character of instruction to be given, this vocational education should be of less than college grade. The States, aided in part by the National Government, have already given substantial encouragement to and offered fairly adequate opportunities for training in the professions, in the arts and sciences, and for leadership in commercial and industrial activities. What we need now is practical education of secondary grade to reach the great body of our workers.

Wherever the term "vocational education" is used in this report, it will mean, unless otherwise explained, that form of education whose controlling purpose is to give training of a secondary grade to persons over 14 years of age for increased efficiency in useful employment in the trades and industries, in agriculture, in commerce and commercial pursuits, and in callings based upon a knowledge of home economics. The occupations included under these are almost endless in number and variety. As illustrative of their general character, a few of the common pursuits may be noted:

In the trades and industries: The work of the carpenter, the mason, the baker, the stonecutter, the electrician, the plumber, the machinist, the toolmaker, the engineer, the miner, the painter, the typesetter, the linotype operator, the shoe cutter and

laster, the tailor, the garment maker, the straw-hat maker, the weaver, the glove maker.

In agriculture: The work of general farming, orcharding, dairying, poultry raising, truck gardening, horticulture, bee culture, and stock raising.

In commerce and commercial pursuits: The work of the bookkeeper, the clerk, the stenographer, the typist, the auditor, and the accountant.

In home economics: The work of the dietician, cook and housemaid, institution manager, and household decorator.

SIZE OF THE PROBLEM.

The immediate need of providing vocational education for this country is well illustrated by the size of the problem before us.

According to the census of 1910, there were 12,659,203 persons in the United States, both male and female, engaged in agriculture. While it is impossible to secure accurate figures, it is probable that less than 1 per cent of these have had adequate preparation for farming. This means that there are over 12,000,000 people engaged in agriculture in this country who are not trained to deal with the soil in such a way as to make it produce, through scientific methods, what it should yield in order to sustain the present and future life of this Nation.

Engaged in manufacturing and mechanical pursuits and allied industries there were 14,261,376. It is equally correct to say that not one out of every hundred of these workers have had, or are having at the present time, any adequate chance to secure training.

The American people have hardly begun the work of providing for the practical education of these millions of our wageworkers. In this whole country there are fewer trade schools than are to be found in the little German kingdom of Bavaria, with a population not much greater than that of New York City. There are more workers being trained at public expense in the city of Munich alone than in all the larger cities of the United States, representing a population of more than 12,000,000. It is substantially true that practically every German citizen who could profit by it may receive vocational training for his life work in the schools and classes supported out of the public treasury. Since commercial prosperity depends largely upon the skill and well-being of our workers, the outlook for American commerce, in competition with that of our German neighbors, is under present conditions not very promising.[1]

To provide in our educational system some opportunity for our workers to improve their efficiency and thereby better their own and the communities' well-being, is a social obligation which can not be avoided with impunity. But, disregarding for the moment this obligation, even to replace the annual mortality and superannuation of our great army of workers, each year 1,000,000 young people are required. Simply to maintain the ranks of our working population, therefore, the immediate problem of vocational education is the problem of equipping for the successful pursuit of some useful trade or occupation the youth who go to work at the rate of more than 1,000,000 a year.

If it be assumed that three years' special training are required by each one to prepare for a calling, our vocational schools must provide

[1] For a brief summary statement regarding vocational education in Germany see Appendix A, p 88.

for the continuous instruction of more than 3,000,000 persons, without taking into account the work which should be done in behalf of the millions more of untrained adult workers already on the farm and in the shop or making any allowance for the growth of our population or of our industries. For this great task the facilities and resources of our public schools are entirely inadequate without the help of the larger resources of the National Government.

THERE IS A CRYING ECONOMIC NEED FOR VOCATIONAL EDUCATION.

The two great assets of a nation which enter into the production of wealth, whether agricultural or industrial, are natural resources and human labor. The conservation and full utilization of both of these depends upon vocational training.

1. VOCATIONAL TRAINING IS REQUIRED TO CONSERVE AND DEVELOP OUR NATURAL RESOURCES.—As the asset of natural resources lessens or falls in the scale, the asset of human labor rises in importance. American agriculture has prospered in the past because it rested upon the basis of the richest soil in the world—a fertility which, with the usual prodigality of this people, has been treated as if it were inexhaustible. This favorable condition itself has delayed for a century too long in the United States the cooperation of the National Government with the States in the systematic training of the American farmer. Only thoroughgoing agricultural education, making the farmer an intelligent user of the natural wealth with which Providence has blessed us as a people, can restore and preserve our boasted agricultural supremacy.

A virgin fertility of soil is no longer available for unintelligent exploitation over any considerable area in the United States, and in the future a permanent and increasingly productive and profitable agriculture can be achieved throughout the country only by scientific culture. In agriculture, science has advanced far beyond practice, and it has become essential for the welfare of our increasing population that the farmer be made an expert. For intelligent farming our soils are an inexhaustible source of wealth.[1]

The American manufacturer has prospered in the past because of four factors:

(1) The abundance and cheapness of raw material.
(2) The inventive genius of this people.
(3) Organizing ability leading to production on a large scale.
(4) A great body of cheap foreign labor of the first generation working its way upward in our midst to civic and industrial worth.

With the opening of new sources of supply in foreign countries, and with the gradual depletion of our own virgin resources in many lines, our advantage from an abundance and cheapness of raw material, at least so far as regards commercial competition, is a decreasing one. We can not continue to draw indefinitely on Europe for cheap labor, nor will cheap labor in the immediate future meet the urgent need in American industry for the more intelligent service necessary if we are to satisfy the rising demand for a better product from our domestic as well as our foreign markets. In the proportion that our

[1] For a further discussion of the need of vocational training as a means of making our agriculture permanent and profitable see Appendix B, p. 92.

resource factor fails we must increase the efficiency of human labor in the shop as well as on the farm.

The conservation and full utilization of our natural resources can be accomplished only in proportion as we train those who handle them. Public discussion and legislative fiat must be supplemented by an agricultural education which will teach the farmer how to make the soil yield an abundance and at the same time leave it rejuvenated, and by an industrial education which will teach our workers in shops and factories how to use material without waste, and how to turn the products of our forests and our mines into articles of higher and still higher value.

2. VOCATIONAL TRAINING IS NEEDED TO PREVENT WASTE OF HUMAN LABOR.—The greatest treasure which this country holds to-day is the undeveloped skill and vocational possibilities, not only of the millions of our workers everywhere, but of the great army of our school children, hundreds of thousands [1] of whom pass annually from the doors of our elementary schools to serve in the shop, the field, and the office. So far we have given but little attention to the conservation of our human resources.[2]

Vocational education will reduce to a minimum the waste of labor power, the most destructive form of extravagance of which a people can be guilty.

In any community there are always to be found three characteristic forms of waste labor power:

(1) The army of the unemployed or the involuntary idle.

(2) The imperfectly employed or the untrained.

(3) The improperly employed, the acquisitively rather than the productively employed.

It is sufficiently obvious that the waste of labor by imperfect or by improper employment can be largely avoided by vocational training in the elements of useful crafts. Such training is, moreover, the most certain remedy for unemployment. As bearing upon this point and upon the general advantage of vocational training, the following statement may be quoted:

> If by means of training you can transfer unskilled labor into the scarcer and more needed work of management, you provide a demand for the army of unemployed and increase the productive power of the community. Upon the distribution of labor power upward from the unskilled and overcrowded occupations toward and into remunerative occupations depends more than anything else the expansion of our industries. It takes no miracle to see it; it requires only education.[3]

3. VOCATIONAL TRAINING IS NEEDED TO PROVIDE A SUPPLEMENT TO APPRENTICESHIP.—The American industrial worker, with all his native qualities, is, relatively speaking, becoming more unskilled. Since the schools have as yet assumed no responsibility for those who go to work, the youth must get the rest of his education in an industrial organization, which no longer is able or willing to train its own workers. Large-scale production, extreme division of labor, and the all-conquering march of the machine, have practically driven

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[1] See Appendix F, p. 104.

[2] "In the present conservation movement it is highly important that we realize two things: (1) That our most valuable resources are our own people; and (2) that we are wasting people more than we are wasting anything else. If we forget either of these things, we shall probably find ourselves trying to save at the spigot while we are wasting at the bunghole." (Prof. Carver, as quoted in Vocational Education in Europe. Report to the Commercial Club of Chicago by Edwin G. Cooley, 1912, p. 27.)

[3] Prof. Carver, as quoted in Vocational Education in Europe. Report to the Commercial Club of Chicago by Edwin D. Cooley, 1912, p. 28.

out the apprenticeship system through which, in a simpler age, young helpers were taught not simply the technique of some single process but the "arts and mysteries of a craft." The journeyman and artisan have given way to an army of machine workers, performing over and over one small process at one machine, turning out one small part of the finished article, and knowing nothing about the business beyond their narrow and limited task. The age of science and invention has brought in its wake a great body of knowledge, related to the work of the mechanic, and necessary to his highest success, which the shop can not give without the help of the schools.

In the skilled callings the young worker seldom gets the breadth of experience or the information which he must have in order to realize himself, and he must, under present conditions, remain on a relatively low level of skill. Most of those who leave school at the age of 14, finding the doors of the skilled occupations closed to them, tend to enter all sorts of low grade skilled and unskilled industries, affording little or no opportunity for better wages or for promotion to a desirable life work. In the absence of a system of education which will follow them to these tasks and, by continued training, show them a way to efficiency and happiness, the time which most of these children spend in the factory is unprofitable, both to themselves and to society. The few adolescents who rise to success as wage earners, whether by accident, rule of thumb, or sheer force of native qualities, acquire their skill and insight in ways that are wasteful to them and to business.

4. VOCATIONAL TRAINING IS NEEDED TO INCREASE WAGE-EARNING POWER.—The practical training of workmen in any pursuit brings both immediate and lasting economic returns in increased production and wage-earning capacity. The returns of our older trade, technical, and apprenticeship schools show that the wage-earning power of their graduates steadily increases as a direct result of their training. For the thoroughly trained worker wages advance from year to year with age and increased capacity with no fixed limit, and while the average increase is large the increase in individual cases is often very large.[1]

5. VOCATIONAL TRAINING IS NEEDED TO MEET THE INCREASING DEMAND FOR TRAINED WORKMEN.—With the constantly increasing demand upon our industries for more and better goods, the supply of trained workers is, relatively at least, diminishing. We are already beginning to feel the inevitable economic results in a relatively low output, increased cost of production, and stationary or diminishing wages as measured by their purchasing power. The product of our factories is being restricted in quantity and quality, if not actually diminished. High prices are due in part to inefficient labor and low profits to the same cause. Inaction means the promotion of poverty and low standards of living and a general backwardness in industry.

6. VOCATIONAL TRAINING IS NEEDED TO OFFSET THE INCREASED COST OF LIVING.—With a farming area practically stationary, a rapidly increasing population, and an agricultural class whose ability with present methods to meet the demands for larger production is

[1] See Appendix C, p. 64, for data showing increase in wage-earning power as a result of vocational training.

relatively diminishing, our national appetite has outgrown both our national larder and our national pocketbook. Population tends to press upon subsistence. The cost of the necessaries of life has risen faster than the earning power of the consumer and has operated to reduce the actual income of the wageworker and make the struggle for existence very hard, not only to the common laborer but even to the trade worker of small means. For millions of our people life has as a result been narrowed and sombered.

7. VOCATIONAL EDUCATION IS A WISE BUSINESS INVESTMENT.—In the last analysis expenditure of money for vocational education is a wise business investment which will yield larger returns, not only in educational and social betterment but in money itself, than a similar amount spent for almost any other purpose. The commission recognizes that boys and girls can not be valued in terms of dollars and cents, save as these represent returns in social well-being both to themselves and to society. The financial argument below is offered from that standpoint alone.

There are more than 25,000,000 persons 18 years of age and over in this country engaged in farming, mining, manufacturing and mechanical pursuits, trade and transportation.[1]

If we assume that a system of vocational education, pursued through the years of the past, would have increased the wage-earning capacity of each of these to the extent of 10 cents a day, this would make an increase in wages for the group of $2,500,000 a day, or $750,000,000 a year, with all that this would mean to the wealth and life of the Nation. This is a very modest estimate, and while no complete figures are available it is probably much nearer 25 cents a day, which would make a total increase in wages of $6,250,000 per day and $1,875,000,000 per year.[2]

In 1910 there were in the United States 7,220,298 children between the ages of 14 and 18 years. It has been estimated that the total cost of bringing a child from birth to the age of 18 represents an outlay of $4,000. This is about $220 per year and includes approximately $60 per year not coming from the parents but contributed by the State and Nation. At present this great body of more than 7,000,000 youths represents on the whole an untrained army needing vocational education to make it efficient. If we assume that it would require on the average an outlay of an additional $150 per person to prepare them for usefulness so that society might realize more fully upon their vocational and civic possibilities, certainly no business man would hesitate a moment to expend that amount in order to make his investment of $4,000 secure and remunerative. It is even more shortsighted for the State and the Nation to neglect these investments since national success is dependent not alone on returns in dollars and cents but in civic and social well-being.

Let us assume further that the expectancy of life ahead of these youths at 18 is only 30 years. An increase of 10 cents a day in wage-earning capacity would on this assumption amount to $30 a year, or $900 in 30 years, in additional wages. An outlay of $150 in training

[1] The total engaged in agriculture, mining, manufacturing and mechanical pursuits, trade and transportation in 1910 was 30,535,249. The number in these pursuits to-day probably exceeds 34,000,000, and even assuming the same distribution by age for these persons as is found in the total population 10 years of age and over the number 18 years of age and over exceeds 27,000,000. The proportion under 18 years is certainly less for those gainfully employed than it is for the total population 10 years of age and over.

[2] See Appendix C, p. 94, "Increased wage-earning power resulting from vocational training."

between 14 and 18 years of age would thus be made to yield a return six times as great. In five years the increase in wages would cover the total cost of vocational training for each worker. If the increase in wage-earning capacity was 25 cents a day, the increase in the wage return in one year would be $75 and in 30 years $2,250, an amount 15 times as great as the original outlay. On this assumption the increased wage-earning power could repay the cost of instruction for each worker in two years.

8. OUR NATIONAL PROSPERITY IS AT STAKE.—We have become a great industrial as well as a great agricultural nation. Each year shows a less percentage of our people on the farms and a greater in the cities.[1]

Our factory population is growing apace. Our future as a nation will depend more and more on the success of our industrial life, as well as upon the volume and quality of our agricultural products. It has repeatedly been pointed out that the time is not far distant when our rapidly increasing population will press hard upon an improved agriculture for its food supply, and force our industries to reach out over the entire world for trade wherewith to meet the demands for labor of untold millions of bread winners.[2]

In volume of output the United States leads the four great manufacturing nations of the world. More than a billion and a half of people outside of these four countries are largely dependent upon them for manufactured articles. "The rewards offered in this world trade are beyond comprehension. They are to be measured in money, in intellectual advancement, in national spirit, in heightened civilization."[3] Yet we have only begun to invade this market, where we find our competitor too often in possession of the field and strongly entrenched against us.

It is true that we have a large foreign trade in manufactured articles, but of our exports a very large proportion consists of crude materials.[4] German, French, and English exports represent on the average a much greater value in skill and workmanship than do those from our own ports. Less than one-third of the volume of our foreign commerce is made up of manufactures ready for consumption.

[1] The number and percentage urban and rural in the total population of the United States is shown in the following table for the last four censuses:

	Urban population.	Rural population.	Percentage.	
			Urban.	Rural.
Census of—				
1880	14,772,438	35,382,345	29.5	70.5
1890	22,720,223	40,227,491	36.1	63.9
1900	30,797,185	45,197,390	40.5	59.5
1910	42,623,383	49,348,883	46.3	53.7

[2] In 1880 food stuffs constituted 56 per cent of our total exports, in 1912 only 19 per cent. In 1880 manufactured articles made up only 15 per cent of our total exports, in 1912 47 per cent.

[3] Report of the Committee on Industrial Education, National Manufacturers' Association, 1912.

[4] Of our exports in 1913, according to figures published by our Bureau of Foreign and Domestic Commerce, 7.48 per cent consisted of "foodstuffs in crude condition and food animals"; 13.19 per cent of "foodstuffs partly or wholly manufactured"; 30.10 per cent of "crude materials for use in manufacturing"; 16.84 per cent of "manufactures for further use in manufacturing" and only 32.04 per cent of "manufactures ready for consumption." The development of our foreign commerce in the future undoubtedly depends largely upon our ability to increase the proportion, in our exports, of manufactures ready for consumption—upon our ability to enter the markets of foreign countries with the products of the skilled labor of our factories and workshops.

A very large proportion consists of raw and semiraw materials such as lumber, cotton, meat, coal, oil, and copper bar, to secure which we have robbed our soil and the earth beneath our feet of the riches we have been foolish enough to regard as inexhaustible. The statistics of our foreign commerce show that the proportion of these raw products, in the total volume of our exports, has been declining during the past three decades and that the maintenance and development of our foreign trade is coming to depend each year to a greater extent upon our ability to compete with foreign nations in the products of skilled labor—upon our ability to "sell more brains and less material." [1]

The volume of our foreign trade has in the past depended upon the exploitation of a virgin soil and of our other national resources. In this crude work we have had no competitors. Our profit has been the profit of the miner working in a rich soil. The volume and profitableness of our trade in the future, however, must depend much more largely upon the relative skill and efficiency of the vocationally trained artisans of England, France, and Germany. Our products will find a market in foreign countries only in those lines of industrial activity in which the labor is as efficient and as well trained as the labor of the countries with which we must compete.

The battles of the future between nations will be fought in the markets of the world. That nation will triumph, with all that its success means to the happiness and welfare of its citizenship, which is able to put the greatest amount of skill and brains into what it produces. Our foreign commerce, and to some extent our domestic commerce, are being threatened by the commercial prestige which Germany has won, largely as the result of a policy of training its workers begun by the far-seeing Bismarck almost half a century ago.[1]

France and England, and even far-off Japan, profiting by the schools of the Fatherland, are now establishing national systems of vocational education. In Germany, within the next few years, there will probably be no such thing as an untrained man.[2] In the United States probably not more than 25,000 of the eleven or twelve million workers in manufacturing and mechanical pursuits have had an opportunity to acquire an adequate training for their work in life.

SOCIAL AND EDUCATIONAL NEED FOR VOCATIONAL TRAINING IS EQUALLY URGENT.

This conclusion is based on such considerations as the following:

1. VOCATIONAL TRAINING IS NEEDED TO DEMOCRATIZE THE EDUCATION OF THE COUNTRY:

(a) *By recognizing different tastes and abilities and by giving an equal opportunity to all to prepare for their life work.*—Equality of opportunity in our present system of education is not afforded to the mass

[1] See Appendix D, p. 98, "Vocational training essential for the maintenance and development of our foreign commerce in competition with European nations."

[2] See Appendix A, p. 83, "Vocational education in Germany."

In no country will you find the problem taken up in so thoroughgoing a manner; in no country will you find an attempt made to cover, by means of industrial schools, the occupations of everyone, from the lowly laborer to the director of the great manufacturing establishment. As has been stated: "The State provides industrial training for every person who will be better off with it than without it. No occupation is too humble to receive the attention of the German authorities; and the opinion prevails there that science and art have a place in every occupation known to man." (Vocational Education in Europe. Report to the Commercial Club of Chicago, by Edwin G. Cooley, 1912.)

of our children. While our schools are opened freely to every child, their aims and purposes are such that a majority of the children are unable to take advantage of them beyond a certain grade and hence do not secure at public expense a preparation for their work in life. Although here and there we see the beginnings of change, it is still true that the schools are largely planned for the few who prepare for college rather than for the large number who go into industry.

Only half of the children who enter the city elementary schools of the country remain to the final elementary grade, and only 1 in 10 reaches the final year of high school.[1] On the average, 10 per cent of the children have left school at 13 years of age; 40 per cent have left by the time they are 14; 70 per cent by the time they are 15; and 85 per cent by the time they are 16 years of age.[1] On the average the schools carry their pupils as far as the fifth grade, but in some cities great numbers leave below that grade.[1]

If we assume that all children should have a minimum school training equivalent to the eight grades of the elementary school, we must acknowledge that the schools now furnish this minimum to less than half the children who enter them. The rest leave school with inadequate general education and with no special training to fit them for work. Vocational courses are therefore needed to attract and hold in school pupils who now leave because they are unable to obtain suitable preparation for useful employment. For such pupils the vocational courses also offer the only opportunity the schools have to give further training in citizenship.

Our whole scheme of education presupposes leisure to acquire academic culture or to prepare for leadership in the professions. Vocational culture and training for leadership in industry is equally important, and these can come only when education is broadened to meet the needs of all the children; so that each and every one may have a chance to develop in accordance with his or her capacity and be prepared to render to society the particular service of which he or she is capable.

(*b*) *By extending education through part-time and evening instruction to those who must go to work in the shop or on the farm.*—Only a meager percentage of the workers of to-day are trained for their work, and the armies of children going out from school at 14 and 15 years of age annually swell the ranks of the untrained. Whether from necessity or not, the economic fact is that the mass of children go to work as soon as the laws of the various States permit. It is not solely because the children and their parents do not appreciate the value of an education that more than half of the entire number who enter the elementary school do not remain to complete it. It is, at least to some extent, because neither they nor their parents are able to see in the schools of to-day an opportunity for education and training to fit for callings which they must pursue. It is for the States and the Nation, not only to see that these children are prepared for life's battles before they leave school, but to supplement their work by after training in part-time and evening schools, so as to insure them the largest possible opportunity for development in everything that makes for useful and happy citizenship.

The United States is one of the few large nations which does not provide by legislation for the continued education of children who

[1] Ayres, "Laggards in our schools."

become wage earners at 14 years of age. The period from 14 to 18 years of age is the one in which the youth is finding himself in society and setting up standards which will largely determine his future conduct and career, and it is therefore important to continue his training both for general civic intelligence and for vocational preparation. If allowed to drift during this period, or if placed in an unwholesome or degrading environment, he may fail to realize his own possibilities of development and may become a dependent or injurious member of society. The adolescent period is, therefore, the critical period during which the individual wage earner needs training for citizenship as well as training for work.

2. VOCATIONAL TRAINING IS NEEDED FOR ITS INDIRECT BUT POSITIVE EFFECT ON THE AIMS AND METHODS OF GENERAL EDUCATION: (*a*) *By developing a better teaching process through which children who do not respond to book instruction alone may be reached and educated through learning by doing.*—There are many over age children in the grades, many who fail to be promoted from year to year and soon loose interest and drop out of school. Many of these retarded children are present in the few elementary vocational schools already established in this country, and many teachers in these schools have testified to the remarkable progress made by these children under a kind of instruction which is suited to their interests and abilities, which utilizes the experience of the child and relates the instruction to his motor activities. This is the most successful way of teaching the normal child or man.

At the same time it should be pointed out that so far as vocational schools themselves are concerned they are by no means institutions for the primary purpose of dealing with slow or retarded children. These schools are such as to call for the best efforts of study of vigorous and intelligent boys and girls seeking preparation for an important life work.

(*b*) *By introducing into our educational system the aim of utility to take its place in dignity by the side of culture, and to connect education with life by making it purposeful and useful.*—The mission of vocational education is not only to provide definite training in the technique of the various occupations, but to relate that training closely to the science, mathematics, history, geography, and literature which are useful to the man and woman as a worker and a citizen. Under such instruction the student worker becomes familiar with the laws of health and with his rights and obligations as a worker and a citizen in relation to his employer, his fellow employees, his family, the community, the State, and the Nation. By thus relating education closely to the world's experience it becomes purposeful and useful and enables the worker to see the significance of, to use, and to interpret in terms of his own experience, the knowledge and culture which the race has accumulated. Such education is at least entitled to a place in dignity by the side of the more formal and literary culture now given by the schools.

3. INDUSTRIAL AND SOCIAL UNREST IS DUE IN LARGE MEASURE TO A LACK OF VOCATIONAL TRAINING.—The absence of opportunity for creative work and, hence, for full self-expression is, without doubt, one of the causes of much of the present unrest. The tendency of large scale production to subdivide labor almost indefinitely and to confine a worker to one monotonous process, requiring little save purely manipulative skill, while effective so far as the material

product is concerned, is serious when measured in terms of human values. It is safe to say that industry in its highly organized form, with its intense specialization, is in the main narrowing to the individual worker, and while "hands" alone may satisfy the immediate demands of industry, the failure to recognize and provide for human progress and development is producing a restless and discontented people.

Out of this unrest comes a demand for a more practical education for those who toil, an education that will better fit them to progress in industry and enable them to rise to ranks of leadership and responsibility. Everywhere it is the opinion of those who are studying the conditions of society that the lack of practical education is one of the primary causes of social and industrial discontent.

Evidence such as that presented by bureaus which are struggling with the problem of unemployment emphasize this need. One of these bureaus [1] states that less than three out of fifty men who apply for work have ever had any sort of trade training or apprenticeship. Most of them have been forced to fit into some particular niche of industry as young untrained boys, have been too readily thrown out with the introduction of new inventions or devices, and help to swell the army of the unemployed. A former State pardon attorney has said that "nearly three-fourths of the persons found in our penitentiaries are persons unable to earn a living excepting at the most rudimentary form of labor." [2]

4. Higher Standards of Living are a Direct Result of Better Education.—Better standards of living are in the main dependent upon two important factors—namely, an increased earning capacity for the great mass of our people and a better understanding of values. Vocational education aims at both. Where there is intense poverty there is little hope of developing higher standards. The one hope of increasing the family income lies in better vocational training.[3]

It is equally true that vocational education enlarges the worker's vision and arouses within him a desire for progress. This is shown by the number of men and women who, by means of further training and education, raise themselves from the ranks of unskilled labor to take positions requiring large directive powers and responsibilities. Our only hope of progress is in helping the individual to help himself. This is at the bottom of all social uplift. To educate boys and girls to perform their chosen tasks better; to understand the relation of

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[1] Wisconsin Employment Bureau.

[2] Statement of Mr. Speed Mosby, Missouri State pardon attorney, as quoted in an address by Mr. James W. Van Cleave before the National Society for the Promotion of Industrial Education at Chicago in 1908. The quotation concludes as follows: "The superintendent of a penal institution, being asked how many of the prisoners had a knowledge of a trade, replied promptly, 'Absolutely none. If they had they would never have come here.'"

The following quotations are from Causes and Cures of Crime, published in 1913 by Thomas Speed Mosby, former pardon attorney of the State of Missouri:

"The effect of the trades and the practice of the useful arts is in all instances beneficial and without doubt is a most potent element in crime prevention" (p. 134). "Nearly three-fourths of the persons found in our penitentiaries are persons unable to earn a living excepting at the most rudimentary form of labor, whose means of livelihood are limited to the most primitive methods, and whose earning capacity is at the lowest possible stage. We find, therefore, the maximum of dishonesty with the minimum of earning power. In other words, men who are not especially skilled in the arts and processes of trade, and who are wholly untrained as to honorable and profitable occupations, are most likely to try to gain a living by unlawfully taking the property of others" (p. 135). "Only about one-fourth of our penitentiary convicts are illiterates. Three-fourths of them are incompetents" (p. 138). "Trade schools are cheaper than reform schools, and manual training than convict labor" (p. 139). "And there is not a prison warden in the United States who will not concur in the observation of John J. Fallon, of the Blackwell Island Penitentiary, that 'The statement that the lack of a trade is a potent and a permanent cause of crime is borne out by all close observers of penology'" (p. 140).

[3] See Appendix C, p. 94, for data showing increase of wage-earning power resulting from vocational training.

their particular work to the whole; to know what their labor is worth and demand a proper return for it, and to broaden their horizon so that both their money and their leisure time may be spent for the things that are most worth while—this is the task of vocational education.

PUBLIC SENTIMENT SHOWS THE NEED FOR VOCATIONAL EDUCATION.

The testimony in behalf of practical education comes from every class of citizenship—from the educator, the manufacturer, the trades unionist, the business man, the social worker, and the philanthropist.

In answer to the question as to whether there was need for vocational education in the various States, the 44 State superintendents of public institutions who replied, all answered in the affirmative; out of 395 city and town superintendents replying to this question, 369 declared that there was urgent need for a system of practical education for the wageworkers of their respective communities; 14 out of the 25 national labor organizations replying to this question said that the wage earners whom they represented were in favor of a system of industrial education in this country; 27 out of the 37 manufacturers who replied, representing skilled, semiskilled, and unskilled industries, selected by various national organizations to answer the question, said there was a great demand for the systematic training of workers for the business in which they were engaged.

At previous hearings before various committees of Congress, national organizations, representing millions of people, appeared to urge upon their Representatives the advisability of national grants for various forms of vocational education. During the hearings held by the commission in the preparation of this report some of these organizations either sent representatives to urge again the need of practical education in the United States or sent communications to the same effect.

It will not be possible in this brief report either to collect or to give any considerable space to the great number of favorable resolutions which have been passed by national, State, and local organizations throughout the country. These come from societies which represent almost every phase and interest of educational, social, business, agricultural, and industrial life. A few of the most representative of these favorable declarations for vocational education are given in the appendix, together with a list of other organizations which have passed similar resolutions.[1]

The movement for vocational education in this country, although of slow growth during the past 10 years, has already gained promising impetus and a few of the States have passed some legislation. At least 10 States have provided officially for commissions of one kind or another to investigate the problem of vocational education, all of whom have declared strongly in its favor, have recognized the imperative demand for it, and have recommended legislation of one kind or another for it.[2]

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[1] See Appendix E, p. 100.

[2] The universal opinion of these commissions, as expressed in their reports, is well given in one of the findings of the Indiana commission:

"The investigations of the commission disclosed that the people are not only ready but anxious for the enlargement of the school work, so as to include the best possible preparation for life work, for all people whether they earn their living with their heads or their hands. Farmers, employees, employers, labor leaders, educators, and social workers who appeared before the commission advocated strongly that definite, wholehearted plans be made. The problem which confronted them was not that it should or should not be done, but how it could be done effectively."

While, as a result of these investigations, a number of States have made commendable beginnings in vocational education of one kind or another, the progress made has been very slow. This is due both to a lack of funds necessary to initiate this new form of education while continuing the regular education, and also because of the lack of prestige for vocational education, such as would be gained by national grants.

In 1910 the royal commission appointed by the Parliament of the Dominion of Canada began investigations of the need of vocational education for that country. The commission has recently issued its report, which indicates an overwhelming sentiment throughout the Dominion in favor both of practical education and of grants out of the treasuries of the Provinces and of the Dominion as a whole for its encouragement. It should be noted in passing that the similar economic conditions existing between this country and our great northern rival make the findings of the Canadian commission most significant.

One of the strongest indications of the great need and demand for practical instruction in this country is shown by the eagerness with which opportunities to secure it, even at private expense, are grasped by great numbers of students. The United States Department of Agriculture reports that the registration in short courses and in schools for farmers at the agricultural and mechanical colleges for 1913 was 40,416.

Even more significant are the figures which show the extent to which correspondence school instruction is being given. There are in the United States a large number of correspondence schools of instruction, the great majority of whose students are employed in wage-earning pursuits and pay their hard-earned money to secure additional training. It has been impossible to secure for this report all the facts regarding these correspondence schools, because they are private organizations and seldom publish information as to the number of their students or the extent of their business. One of the largest of these schools has, during the past 22 years, enrolled 1,651,765 pupils in the United States and Canada and is enrolling new students at the rate of 100,000 a year, most of whom come from the United States.

With the exception of a few part-time and evening schools, the total number of whose students probably is not more than 25,000 for the entire country, there are no opportunities for ambitious workers to secure instruction by direct contact with the teacher in the schoolroom. The exceptional workman undoubtedly profits by correspondence school instruction, but would profit more by schoolroom teaching. The average workman neither takes advantage of, nor could he profit much by, correspondence school instruction. Whenever, on the other hand, part-time or evening schools are established, many of these workers do attend and receive large benefits.

Just as the Smith-Lever Act is designed to meet the vocational needs of the farmer who has already gone to work on the soil, so part-time and evening schools must be established for the purpose of meeting the demands of the wage earner in the shop and in the factory. A national statute giving grants for this purpose as at least one of its provisions is the necessary complement of the Smith-Lever

Act, both of which are important at this time in order that this nation may safeguard its future prosperity by the further education of its two great productive factors—the industrial worker and the farmer.

OPINIONS OF STATE SUPERINTENDENTS.

Illuminating indeed are the reasons given by various State superintendents of public instruction for the need of vocational education in their respective States.

State should point the education of every child leaving its school system, at whatever age he may leave or whatever grade he may be in at the time, with the practical education that will fit him into something in the outside world.

No education tends to function that is not secured with a definite aim upon the part of the child as to the future application he will make of it.

The development of this State will turn upon the intensity of its reality.

Vocational education tends to strengthen the link between the school, the home, and the after-school life.

They develop the natural products of our State and give our youth an opportunity to become experts along these lines.

On account of our geographical position and resources.

Because 80 per cent of the population follow this business.

To hitch up the schools with life.

There is special need for trade and industrial education and almost no provisions are made by local communities for this form of instruction.

Agriculture is one of our chief sources of productive wealth, and as an occupation needs special encouragement from us.

To help those who must work at 15 and 16 years of age.

For vocational guidance.

An economic necessity.

Efficient preparation for trades, industry, commerce, agriculture, and household arts is a State responsibility.

We believe in preparing the people for practical life and to make them self-sustaining.

Because skilled workers are needed in large numbers.

Because 80 per cent of our people live on the farm.

Because girls should be prepared to do the work at the home in the most approved fashion.

Because trained high-school students make efficient business men and women.

Business needs trained clerks and stenographers.

This State is distinctly a State of husbandman.

For better homes and community life.

For the general welfare.

CHAPTER II.

NEED OF NATIONAL GRANTS TO THE STATES FOR VOCATIONAL EDUCATION.

SCHOOL MEN, LABOR ORGANIZATIONS, AND MANUFACTURERS FAVOR NATIONAL GRANTS.

That national grants for vocational education are necessary for its immediate and proper development, was the practically unanimous opinion of those whom the commission interrogated through its questionnaires.[1] Only one out of the 44 State superintendents heard from said that national aid was unnecessary. Out of 99 answers returned by county superintendents 88 expressed their opinion that national grants were necessary to help the rural sections of the country to develop agricultural education; out of 375 superintendents, representing cities and towns of over 10,000 population, 320 said that national grants were necessary to help their communities bear the burden of providing industrial training for the great mass of wageworkers; out of 57 national labor organizations, 45 said that they favored Federal aid to the States for vocational education; out of 37 manufacturers, selected by the national organizations, who replied to the question, 29 said that in their opinion national grants were greatly needed to bring about the rapid development of a system of practical education in the States. These manufacturers represented various types of skilled, semiskilled, and unskilled industries.

Many great national organizations, representing every phase of educational, industrial, agricultural, civic, and social points of view, have repeatedly gone on record in favor of stimulating the States to give vocational education.[2]

REASONS FOR THE NEED OF NATIONAL GRANTS TO THE STATES.

As Given by State Superintendents of Public Instruction.—Widely varying reasons for the need of national grants to the States for vocational education are given in the replies of State superintendents of public instruction to a questionnaire submitted by the commission:

I believe that vocational education is not only a local function but also a national function, due to the fact that the American people wander from State to State, so that at the present time State lines are tending to become less and less distinct.

This State needs national grants for education in mining, agriculture, and household arts.

To start a belief and an interest in such education.

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[1] See Appendix K, p. 121, for replies to all questionnaires.

[2] See Appendix E, p. 100, "Resolutions of national organizations favoring the idea of stimulating the States to give vocational education."

Our State and local school funds are not sufficient to maintain the above forms of schools.

Because of the large preponderance of the farming class in this State and the difficulty always attached to furnishing education of all kinds to the thinly populated rural sections.

This is a young and rapidly growing State whose taxes are high; need this help to fit children for efficient citizenship.

We need help to secure properly trained teachers, directors, and superintendents. We must have men at the heads of these schools capable of doing the work which must be done to make the work efficient and economical. At present such men are hard to find; we can not pay them or hold them when we find them.

Certain investigations must be made to put the vocational work on a sound and economic basis. It should be worked out, not as a community, or even as a State problem, but as a national problem. This need can not be fully met by local communities or even States. People want immediate results and there is no time or money available for us to work out the problem that needs to be solved to place the work on a scientific and businesslike basis. The services of experts are needed to work out such problems as the following:

(1) The training of vocational teachers.

(2) To study the various occupations and industries for which we expect to prepare, with a view to determining the kind of instruction which is needed for efficient training in that field, i. e., how that trade can best be learned; what must be learned, etc.

(3) To work out the practical phase of the problem of vocational and educational guidance, as related to the problem of vocational education and the establishment of vocational schools.

Vocational education as at present contemplated is peculiarly a national problem. It is beneficial to the entire community since it has to do with the happiness and productive powers of the producers in the country. Nothing is of more vital importance to the community as a whole than to serve the full talents and capacities of its future citizens. This, vocational education seeks to do. The problem is so extensive that it can not properly be worked out unless taken up by the Nation as a whole. It should also be pointed out that such a problem as vocational education will never be enthusiastically and fundamentally taken up by local communities, because school workers rarely stay in the community where they are educated, but go to other communities and States to find a better market for their labor and skill. The problem should not only be made a national one, but should be undertaken in a way that would give permanent results.

A national appropriation could be used to good advantage if turned over to the State board of education and employed by that body as a stimulus to induce country communities to undertake the practical work which would equip their boys and girls to work successfully and to make and manage their homes properly.

Because State and local funds are not adequate.

In all cities and towns we are voting the constitutional limits for school purposes and can not make our schools as efficient as we want them. In most cases the towns are absolutely unable to give any vocational training in the schools.

National grants are necessary in order that the rising generation in this State may be better equipped to cope with present-day conditions.

For the purpose of extending opportunities to young men and women who prepare themselves for industrial and household arts' work, there is much need for an extension of such opportunities. Such education is expensive and confers a benefit upon the entire Nation.

This State would welcome aid from the National Government so that the industrial branches might be taught more effectively in the schools of the State.

Federal aid to stimulate local effort and increase local facilities. Our dual system of schools for whites and negroes imposes a heavy cost, rendering the development of industrial and vocational education slow. The resources of our State await development by intelligent skilled labor.

This State needs national grants to stimulate an interest; to direct an interest to aid in doing that which it can not well do for itself; to contribute to the development of the country.

It is expensive to properly inaugurate work of this kind. Our State is largely rural and rural communities can hardly support schools where the bare essentials are taught. The cities' resources are exceeded in lengthening the time and enlarging the curriculum. The National Government must carry part of the load if trades, industries, commercial courses, and agriculture are taught well.

A SUMMARY OF THE REASONS FOR NATIONAL GRANTS, as given above, includes the following points:

1. To make the work of vocational training possible in those States and localities already burdened with the task of meeting the requirements for general education.

2. To help the States, with their widely varying resources, bear the burden of giving vocational education as a national service.

3. To equalize among the States the task of preparing workers whose tendency to move from place to place is increasing, making their training for a life work a national as well as a State duty and problem.

4. To secure national assistance in solving a problem too large to be worked out extensively and permanently save by the whole Nation.

5. To give interest and prestige in the States to the work of preparing our youth for useful and productive service.

6. To secure expert information from the agencies of the National Government, bringing to bear a country-wide knowledge and viewpoint, which will put the work of the States on a scientific and business-like basis.

THE URGENT NEED FOR VOCATIONAL EDUCATION JUSTIFIES NATIONAL GRANTS.—As has already been pointed out,[1] our rich asset of national resources is not being fully utilized and our still richer asset of human labor is being constantly and rapidly wasted. Delay in dealing with the question will be disastrous. Now is the time to begin this work actively if we are to "get the right answer" to our problem. Germany, with national cooperation and aid, has 30 years the start of us in preparing her workers. Even with the help of the National Government, at least the same amount of time will be required for the States to get where the Germans are to-day. While the need is acute, all of the vocational training for the actual worker now being carried on in this country, though promising as an experiment, is as nothing compared with the magnitude of the task confronting us. Only 8 out of the 48 States have established State systems for vocational education, and these systems are not as yet reaching even 1 per cent of the workers who need training.

While the task confronting us is difficult and stupendous, it can be overcome and will be overcome just in proportion as we work at it. Germany has done much, but her experience has for us only suggestion, never precedent and rule. By beginning now, under the stimulus of national encouragement, we shall learn by experiment and study how to meet the varied and complex demands of industry, due to peculiar social, economic, industrial, educational, and administrative conditions in each State and locality.

THE STATES CAN NOT DO THE WORK BY THEMSELVES.—Without the aid of national grants extensive vocational education might come in time, but very slowly. After 10 years of agitation, many States have not even made beginnings in this direction.

Every Commonwealth is heavily burdened with the task of meeting the new demands in general education which the twentieth century is thrusting upon the school. Restricted mainly to the revenue from a property tax, the States lack the means to cope with the task successfully. They are reluctant to tax themselves for the entire support of expensive forms of practical instruction when they see the

[1] See Ch. I, pp. 18 and 19.

trained men and women drifting away to other States and carrying to them rich assets in citizenship and workmanship.[1]

Additional sources of revenue which otherwise would lie open for use by the States are being rapidly taken over by the National Government through such legislation as the income tax and the corporation tax. There are not wanting those who point out the necessity for the National Government to supplement the more limited resources of the taxing power of the States, particularly under conditions just described, by grants for special purposes, such as vocational education.

Local communities all over the land are under a restricted taxing power, on the one hand, and, on the other, under increasing requirements, many of which have been imposed upon them by the State constitutions and laws. As a result, most of them are finding it very difficult to meet their present financial problems. The burden is particularly heavy in the communities that most need agricultural and industrial education—the small country town—and the industrial center where the demands on the taxpayer are increasing.[2] Practical education, when given properly, will be costly as compared with regular education. To give it otherwise is a waste of time and money. Cities and towns and the country places must have aid else they will not attempt the task at all or will do it so poorly, because of their excessive burdens, that it may result in more harm than good.

NATIONAL GRANTS ARE JUSTIFIED BY THE INTERSTATE CHARACTER OF THE PROBLEM OF VOCATIONAL EDUCATION, due to the interstate character of our industries and the national character of State business and industrial life. Because of its extreme mobility labor, particularly that which is skilled and is therefore in great demand, has taken on a national character. A man may be born in Indiana, trained as a worker in Massachusetts, and spend his days as a machinist in California. A State can not be expected to devote large sums from her public revenues to the making of good workmen for the benefit of other States. Only out of a common fund like the National Treasury can the burden be equalized and adjusted so that each State may in justice be expected to meet the obligation resting upon its schools.

Industries are so interrelated that every State is interested commercially in the quality of workmanship in every other State. Cotton is grown in Georgia, woven into cloth in Rhode Island, and consumed in Iowa. Iron is rolled in Pennsylvania or Alabama, made into plows in Wisconsin, and used in Oregon. The widespread distribution of many large scale industries is such that State lines must be disregarded when we think of the places and problems involved, not only in the making and selling of products, but also in the education and employment of labor. A great construction company anywhere to-day may not only gather its working force, representing many different trades, from anywhere in the Union, but may, in the ordinary course of a year's business, send them into a dozen States.[3]

[1] See Appendix G, p. 106, "The increasing and inequitable burden of the States in providing more money for the public schools," etc.
[2] See Appendix H, p. 111, "The increasing burden of taxation in urban communities."
[3] See Appendix I, p. 113, "Mobility of labor."

Although we are a group of sovereign States, each one of whose constitutional rights must be carefully safeguarded, industry, commerce, and labor are so interrelated that the National Government must be the unifying agency through which the States operate. This is recognized as essential in handling all such problems as those relating to national defense, the improvement of rivers and harbors, the postal service, and the making of good roads, whose character is such that they can not be handled properly by individual States alone. This has always been the work of the National Government for which it was established by the Constitution. The proposal that the Nation should undertake to help the States deal with the task of providing vocational training for its millions of workers is only an attempt to extend the same policy to another important endeavor which is interstate in character and is not in any way an attempt to infringe upon the right of a State to control its own educational system.

NATIONAL GRANTS FOR VOCATIONAL EDUCATION ARE JUSTIFIED BY THE NATIONAL CHARACTER OF THE PROBLEM, for it concerns all the people and is of nation-wide interest and importance. It is the duty of the National Government, in so far as it does not interfere with the constitutional rights of the States, "to promote the general welfare." National efficiency is the sum total of efficiency of all individual citizens and the national wealth is the sum of their wealth-producing capacity. While, therefore, our national prosperity in the past has been based largely upon the exploitation of our national resources, in the future it must be based more and more upon the development, through vocational education, of our national resource of human labor. In the markets of the world we compete, not as individuals, but as a unit against other nations as units. This makes the protection of our raw material and of our productive skill and human labor a national problem, and unquestionably introduces a national element into vocational education, making the right preparation of the farmer and the mechanic of vital concern to the Nation as a whole. On national grounds, therefore, Federal aid for vocational education becomes necessary and unless it is undertaken as a national duty, the national welfare, which is a time-honored provision of the Constitution, is at stake.

NATIONAL GRANTS FOR VOCATIONAL EDUCATION ARE JUSTIFIED BY ABUNDANT PRECEDENT.—Since the founding of the Government, Congress has passed in all more than 42 acts which conferred directly upon all the States, or upon specific States, usually at the time of their admission to the Union, national grants of either land or money to be expended for the benefit of education. The amount and character of these grants, as given by Monroe's Cyclopedia of Education, are as follows, the figures given being in a number of cases "not exactly accurate, but rather the nearest possible approximation."[1]

[1] Article "National Government of the United States and Education."

Total of national grants for education.

[From Monroe's Cyclopedia of Education, article on "National Government of the United States and education.]

Grant and purpose.	Acres granted.	Fund derived from sales.	Probable future income.[1]	Total income.
1. For common schools:				
Sections for schools	81,064,300	$103,000,000	$410,000,000	$513,000,000
Saline grants	900,000	1,000,000	.....	1,000,000
Five per cent of land sales	.....	7,187,316	7,000,000	14,000,000
Surplus revenue	.....	14,000,000	.....	14,000,000
Internal improvement act	5,000,000	6,000,000	8,000,000	14,000,000
Swamp-land grants	45,000,000	15,000,000	2,000,000	17,000,000
Forest reserve per cent	.....	1,000,000	[1] 25,000,000	26,000,000
Total	131,964,300	147,187,316	452,000,000	599,000,000
2. Aid for higher education:				
University grants	3,407,643	5,000,000	27,500,000	32,500,000
Land-grant colleges:				
Grants of land	11,367,832	13,736,178	25,000,000	39,000,000
Experiment station grants	.....	14,000,000	[1] 30,000,000	44,000,000
Laws 1890 and 1907	.....	23,920,000	[1] 62,500,000	86,420,000
Total	14,775,475	56,656,178	145,000,000	[2] 200,920,000
3. Grants for other types of schools:				
Normal schools	1,500,000	2,500,000	17,500,000	20,000,000
Deaf, dumb, and blind	560,000	.....	5,600,000	5,600,000
Reform schools	500,000	.....	5,000,000	5,000,000
Total	2,560,000	2,500,000	28,100,000	30,600,000
4. Summary of grants	149,299,775	206,343,494	[2] 725,100,000	[2] 829,520,000

[1] Calculated for 20 years from 1911 at present rate of increase.
[2] These totals are not the correct sums of the items, but are given as shown in the work cited.

GRANTS FOR HIGHER FORMS OF VOCATIONAL EDUCATION.[1]—President Lincoln signed in 1862 the Morrill Act, which, granting to the various States tracts of land having a total area half as large as Indiana, inaugurated the policy of Federal aid for vocational education of college grade to prepare young men for leadership in agriculture and the mechanic arts. In the wake of this measure which founded the agricultural and mechanical colleges have come a series of congressional acts appropriating annual sums of money. In 1887 additional grants were given to these colleges which brought about a new departure in the matter of Government aid. The Hatch Act provides a direct appropriation of $15,000 per year from the proceeds of the sale of public lands to each State for the maintenance of an agricultural experiment station, to conduct researches or experiments bearing directly upon agriculture. Subsequently this grant was increased to $30,000 a year. Under these acts more than $15,000,000 has been paid directly to the States for experimental work in agriculture.

The results under the grant proved so beneficial that in 1890 the Nelson Act was passed, providing a direct annual grant to each State for maintenance and for the further support of the agricultural colleges. Beginning with $15,000 a year to each State, this annual appropriation has been increased until as the result of the act of 1907 a maximum grant of $50,000 a year to each State has been recorded, involving with the $30,000 for experimental work a total annual

[1] Unless some other source is indicated, the data relating to national grants given in this and following sections are taken principally from Monroe's Cyclopedia of Education, articles "National Government of the United States and education" and "Agricultural education."

cash appropriation of $4,000,000 for the 50 States and Territories which are eligible. The total cash grants to the agricultural and mechanical colleges, most of which have gone to the support of agriculture, have amounted to approximately $46,000,000.

More than 130,000,000 acres have been applied to the work of the common schools of the country, to which the Government has added more than $22,000,000 in special grants from time to time. Many of the States used a portion of the grants to form a permanent school fund, to which they have made material additions so that at the beginning of the century the resulting annual income was more than $10,000,000. At first a large part of the grants was expended for every conceivable educational purpose, including the purchase of school grounds and buildings. To-day the proceeds are almost universally applied to the salaries of teachers in every kind of public-school work, both elementary and high. While most of it has gone to the support of general education, an increasing amount is being devoted, as they develop, to elementary agriculture, manual training and household arts, and in a few cases to a thoroughgoing training in agriculture and the trades and industries. There is no phase or kind of education—general, social, physical, civic, or vocational—for which some of the moneys given out of the larger bounty of the Nation has not been used.

Aside from cash grants, almost 15,000,000 acres have been given for the benefit of our State universities and State agricultural and mechanical colleges.

Grants for Special Kinds of Schools.—For the aid of special schools such as those for the deaf, dumb, and blind, and reform schools, Congress has given to the States varying quantities of land, totaling more than 2,500,000 acres, and has passed many special acts making appropriations for the benefit of individual schools and colleges, some of them conducted under private agencies.

Grants for Training Teachers.—University grants founded many of our State universities, 68 State universities, State colleges, and agricultural and mechanical colleges having been endowed or founded by congressional land grants. These same universities and colleges are to-day largely supplying the demand for regular high-school teachers in the country and are the largest source of supply for teachers, supervisors, and directors of agricultural subjects in our secondary schools. Normal schools have expended the national revenue derived from a million and a half of acres for the preparation of teachers, many of whom have gone out to service in the teaching of elementary agriculture, manual training, or home economics in the common schools of the country.

For many years the work of the agricultural and mechanical colleges, stimulated and supported in part by Federal aid, was devoted almost exclusively to education for leadership in agriculture and the mechanical arts. Through experiment station and farm demonstration work, which has been largely a growth of the last decade, these colleges have reached and benefited the farmer at work on his home acres by information and practical illustration. The farm extension work already successfully under way in some of the States is sure to grow rapidly under the stimulus provided by the grant through the Smith-Lever Act, which will in a few years amount to $4,580,000 annually and will thus enable the agricultural

and mechanical colleges to greatly extend their field of influence to the mature farmer. What is needed, as will be discussed more fully at another point, is a system of agricultural education in our rural schools, particularly our rural high schools, which will supplement the Smith-Lever Act by training boys and girls for the duties of the farm at the time when they are most teachable and most need to be attracted to the possibilities of a scientific and prosperous agriculture.

The excellent departments of civil, electrical, and mechanical engineering of the agricultural and mechanical colleges have reached and trained technical leaders, whose value to the industry can not be overestimated. But they have made no pretense of meeting the vocational needs of the mechanics or foreman. Here, again, the service which the agricultural and mechanical colleges and the engineering schools of the country are rendering must be supplemented, as will be demonstrated later, by national grants stimulating our towns and cities to provide, at public expense, industrial and trade education for the great mass of wageworkers.

NATIONAL GRANTS TO FEDERAL DEPARTMENTS AND BUREAUS, which have been used to promote and to aid vocational education in the States, are not, of course, included in the statements given above. In the past decade, millions of dollars have been expended through the various departments and bureaus of the National Government, for collecting and disseminating this information.[1] While this has been of value to the States, there are rich by-products which have gone to waste, and which would be of inestimable value to the furtherance of vocational education throughout the country if the Government should formulate a plan of cooperation between the bureaus and provide sufficient funds to carry on certain lines of their work with a more specific application to educational purposes.

NATIONAL GRANTS FOR EXTENDING VOCATIONAL EDUCATION ARE AMPLY JUSTIFIED BY THE RESULTS.—The opposition to the various bills disbursing Federal moneys among the States for educational purposes has been due to fear lest such a policy should make the States dependent upon the Federal Government for the discharge of what is primarily their responsibility of training their own citizens. President Buchanan vetoed the first bill creating the State agricultural and mechanical colleges, because he feared it would "cause the States to lean upon the National Government for the support of their own educational systems." The result of every national grant for education has been quite different. For every dollar of income from Federal sources expended by the Nation on the common schools of the country in 1910-11, the States themselves spent more than $4, and the States and local governments combined approximately $26.[2]

[1] The 1909 report of the Commissioner of Education gives the total amount of appropriations in behalf of education by one session of Congress (the second session of the Sixtieth Congress), exclusive of the appropriations for the colleges of agriculture and mechanical arts ($2,000,000), and for the Office of Experiment Stations ($1,623,060) as $12,292,182.30. Very large expenditures have been made under congressional authority by the Department of Commerce and Labor in collecting and disseminating information regarding industries and trade. In 1911 the Commissioner of Labor published a report of 822 pages on Industrial Education. The Bureau of the Census has expended large sums in preparing its reports on occupations in agriculture, industry, and trade, and in gathering and tabulating other data of fundamental value in its bearing upon vocational education. The Department of Agriculture has prepared and published some 30 bulletins which may be grouped under the general heading of domestic science. These bulletins alone summarize some of the results which have been obtained by large expenditures, extending over a long series of years. Each year the Bureau of Education collects and publishes data relating to the progress of vocational education in the public and private schools of the country.

[2] Report of Commissioner of Education for 1912, Vol. II, Table 12.

The States spent more than four times as much money for higher education as they received in that year from the Federal Government.[1] In the half century since the establishment of the "land-grant colleges," the large gifts from the United States Treasury for their work have been liberally supplemented by State appropriations, State and local tax levies, and income from State endowment funds. For the five years 1908–1912 combined, the total State aid received by the agricultural and mechanical colleges amounted to $58,271,060; the total Federal aid to $14,849,969, the Federal aid being approximately one-fourth as great as the State aid.[2]

In the States formed after the close of the Revolutionary War the national grants for the common schools set forward the cause of public-school education "free as the living waters" fully half a century. Federal moneys employed in founding and supporting State universities, providing free training for leadership in civic and professional life, set standards in culture and efficiency in a pioneer period the results of which can not be overestimated. The fact is that in most of the States along the eastern coast where land grants were not available for the stimulation of State universities such institutions have never been established. This goes to show that without the aid of the Nation it is probable that many more of the States would yet be without them as an integral part of a free educational system.

Probably no aid given by the National Government for education has ever proved so fruitful as have these grants for colleges of agriculture and mechanic arts. Instead of causing the States to lean upon the National Government for the support of their educational systems, as feared by President Buchanan, the result has been the opposite. New and vigorous colleges have been created, small and feeble State institutions have been awakened into new life, the agricultural and engineering professions have been developed, and the States have been stimulated to make large and rapidly increasing appropriations to these colleges and to their State universities.[3]

NATIONAL COOPERATION WITH THE STATES FOR VOCATIONAL EDUCATION IS JUSTIFIED BY THE PRECEDENTS IN COOPERATION ALREADY ESTABLISHED for other important purposes as well as for education. The limits of this report will not permit the treatment of these which their importance and significance would otherwise require. The Federal Government is acting in cooperation with the States in doing many things which otherwise would remain undone or be but slowly and imperfectly done. The Government carries on many enterprises permitted by the Constitution and necessary to the general welfare which are interstate in interest and character and which could not be conducted satisfactorily by the separate States, such as the operation of the Postal and Custom Services, the improvement of rivers and harbors, the regulation of navigation and of railroads, the protection and preservation of forests at the headwaters of navigable streams, the reclamation of arid lands, and the protection of migratory birds.

Sometimes appropriations have been made to the States, almost entirely without restrictions, for the purpose of stimulating them, particularly in pioneer days, toward more rapid development. These appropriations included both grants for the specific benefit of common

[1] Report of Commissioner of Education for 1912, Vol. II, p. 360.
[2] Report of Commissioner of Education for 1912, Vol. II, p. 335.
[3] Monroe's Cyclopedia of Education, Vol. IV, p. 380.

school and higher education and the more general grants of lands and funds not only for schools but for the laying out and maintaining of roads, the building of bridges and levees, the establishing of proper drainage, the erecting of public buildings, the carrying on of other internal improvements, the encouragement of colonization, the extinction of the State debt, and for any other purpose that the State saw fit.

It might be said in passing that grants of this character have been almost entirely confined to what might be called the period of pioneer development in this country. Not since the middle of the last century have disbursements of money for general purposes been made to the States, nor in general have grants for any purpose been made since that date unaccompanied by requirements insuring joint support by State and Nation and reasonable safeguards in the use of the funds. All the moneys now being disbursed to the States are expended in cooperation with them under conditions insuring joint support, as well as the proper use of the funds and the success of the work benefited.

THE HUMAN PROBLE · MOST IMPORTANT.—This Nation is spending more than a billion dollars annually, almost all of which is being used to meet such purely physical problems as the national defense, the promotion of commerce, the operation of the Postal and Custom Services, the preservation of law and order, the erection of public buildings, the improvement of rivers and harbors, and the reclamation of arid lands. Important and necessary as is this service, the proposal to give a modest amount to the States for vocational education of our workers is vastly more so, in proportion as the human problem is greater than the physical. We have done much in the outreach of the Federal power for the encouragement of things which, although obvious, are relatively superficial as compared with the need for the practical education of 25,000,000 untrained people, who reach to the very heart of our body politic and weaken or strengthen our social structure.

It would, after all, be of little use to have Federal aid for good roads or other material benefits making for our physical well-being, if at the same time this country has an uncounted army of untrained workmen and workwomen to carry in life. If we can get our great human force trained and operating along educated lines, all other things will come in a normal manner. To assert year after year the policy of national grants for the purpose of conducting our business and at the same time to neglect the proper preparation of our people is "to set the seen above the unseen."

CHAPTER III.

KINDS OF VOCATIONAL EDUCATION FOR WHICH NATIONAL GRANTS SHOULD BE GIVEN.

PRINCIPLES GUIDING THE COMMISSION.

In considering the various kinds of vocational education, the commission has felt that the question of whether or not national grants should be proposed for any one of them should be settled by applying the straight edge of the following principles:

1. National grants should be given to the States only for those forms of vocational education for which there is an acknowledged widespread need that is not now being met.
2. National grants should be given to the States only for those forms of vocational education where the need is of such importance to the national welfare as to justify national aid for their encouragement.
3. National grants should be given to the States only for those forms of vocational education where it is clear that in the absence of such aid the States could not take the initiative in time to meet the present and growing need.

Applying these principles to the different kinds of vocational education, professional, commercial, nautical, agricultural, industrial, and home economics, the commission, after careful consideration, feels that there is no need at the present time for Federal appropriations to the States for the benefit of the first three.[1] Professional education is already well developed by the States and there is large opportunity for those who want such training.

Although there is a general feeling that the quality of commercial education might be improved, the reports from the country seem to show that there is no great scarcity of trained workers of this kind.[2] The commission believes that the National Government should give substantial encouragement to commercial education through studies, investigations, and reports, which analyze conditions in commerce and commercial pursuits, and in this way furnish expert information for use in courses of instruction and methods of teaching commercial subjects.

Under present conditions in our merchant marine, there seems to be no urgent need for Federal appropriations for the development of nautical schools.

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[1] See also Ch. I, p. 16.

[2] According to the 1912 report of the Commissioner of Education (see Vol. II, p. 565) the number of commercial and business schools in the United States in 1912 was not less than 1,000. The commissioner estimates the number of students enrolled in these schools and in commercial courses in the 2,516 public and private high schools as 350,000. The enrollment in the 519 commercial schools ("business colleges") reporting statistics to the Bureau of Education was 137,790; in commercial courses of private high schools and academies, 14,173; and in commercial courses in public high schools 128,977; giving an aggregate reported enrollment for 1912 of 280,940 students. It is estimated that there were from 50,000 to 100,000 students in commercial schools which did not report statistics to the Bureau of Education. See also Appendix K, pp. 147 to 157, for tables showing the extent to which commercial education is now being given.

The commission has given very serious consideration to the whole question of training in home economics. It is strongly of the opinion that preparation for the varied duties of the home should be regarded as a legitimate and integral part of the education of every girl; that it should be given throughout the entire school course, both in elementary and in high schools; and that it should be considered a necessary part of a girl's general preparation for life, no matter what her particular calling might be.

The investigations made by the commission show that the States are not only fully awake to this need, but that, so far as the towns and cities are concerned, general training for the home is being rapidly developed in the States, so that it seems reasonably certain that this work, in the absence of national grants, will not be neglected.[1]

The difficulty of providing for home training in the rural districts, without national aid, is apparent.[2] Partly for this reason and partly because the duties of the farmer and the farmer's family on the farm and in the home are so closely interrelated, the commission has recommended that grants for agricultural education shall include training for "the occupation connected with the work of the farm and farm home."

The commission recognizes, however, that aside from general training for the home, there are numerous callings in which women are engaged which are based upon a knowledge of home economics, such as that of the dietician, the cook, the housemaid, the institutional manager, and many others. These require a highly specialized training, and the commission has therefore deemed it advisable in proposing grants for industrial education to so define the use of that term as to include training for such callings.

Because of the universal importance of this subject, the commission has deemed it advisable to include teachers of home economics in its proposed grants for training teachers in vocational subjects.

The commission has also recommended that, by a plan hereinafter described, the work already done by Federal agencies in making studies, investigations, and reports in the field of home economics be extended.

Again applying these principles, and believing that the crying need in this country at the present time is extensive and thoroughgoing training for agriculture and the trades and industries, the commission believes that grants for these two forms of vocational education are justified. The need for instruction in agriculture and in the trades and industries is acknowledged, is widespread, and is not now being met.[3] They are of such importance to the national welfare as to make

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[1] Out of the 44 States from which questionnaires were received by the commission, 35 reported that they were doing something for education in household arts in all-day schools; 14 that they made provision for this group of subjects in evening classes; and 6 that they had part-time or continuation classes of household arts for girls over 14 who are still in school. For details of the returns from State superintendents see Appendix K, p. 122, and for those from city superintendents, p. 126.

[2] Of the 154 superintendents of schools in rural communities from whom schedules have been received by the commission, 35 report that no provision whatever is made in their counties for instruction in household arts even for girls who are in school, and 87 have nothing to offer to girls who have left school and are working in the farm homes. In 119 of the counties no provision whatever is made for instruction in household arts for adult housewives. For particulars, see Appendix K, p. 130.

[3] That the need is acknowledged is apparent from the fact that practically all the schedules received from State, city, and county superintendents express the desire to extend their work along these lines; that the need is not now being met is shown by the fact that 69 counties report that they offer no instruction whatever in agriculture for boys who have left school; that 107 counties have no provision for helping adult farmers improve their knowledge of their business; and 115 counties have no public secondary schools for agriculture open to all persons in the county. (See Appendix K, p. 131.) As to trades and industries, 11 States provide no courses in all-day schools, 19 provide nothing in evening schools, and 23 have no courses offered in part-time or continuation schools. (See Appendix K, p. 123.) Of the cities reporting, 137 offer no instruction in trades and industries even to boys of 14 who are still at school. (See Appendix K, p. 126.)

national grants for their encouragement a wise investment from every standpoint. Without the stimulus of Federal appropriations the States are not able to undertake in a comprehensive way the training for a more skilled and productive agriculture nor for a more skilled and productive industry, which is of the utmost importance to the welfare and happinesss of the Nation.

VOCATIONAL TEACHERS OF PRIMARY IMPORTANCE.

The commission believes that the development of vocational education along right lines, both for agriculture and for the trades and industries, will depend largely upon the ability to secure and retain well-trained teachers who have a thorough and practical knowledge of their subjects. It is therefore proposed that Federal grants to the States be given in two ways:

1. For the training of teachers of vocational subjects.
2. For paying the salaries of vocational teachers.

GRANTS TO THE STATES FOR THE TRAINING OF VOCATIONAL TEACHERS.—In the early beginnings of cooperation between the States and the Nation in developing agricultural and trade and industrial education, as proposed by this report, it is probable that qualifications of teachers of vocational subjects will be fairly low. This is due to the dearth of competent and well-trained teachers of this kind at the present time, resulting from the failure of the States to provide for their training. It is therefore imperative that provision be made for preparing vocational teachers to meet a rising test of efficiency, both in practical knowledge of their subjects and in the teaching process, if the vocational schools are to measure up to present and future needs.

The very newness of the task of securing and training vocational teachers makes it a difficult one for the States to undertake without the help of the Federal Government. Some of the conditions to be met are:

1. Practical and thorough experience in, or contact with, the particular vocation or branch of the vocation to be taught, whether in agriculture or trade, is necessary for successful teaching in vocational schools. How to supplement this trade knowledge with a knowledge of "how to teach" is a matter for serious consideration.
2. To be successful, trade and industrial schools must secure as shop instructors men and women who are experts in their trades. These persons are usually earning better salaries than those usually paid by the schools and are therefore not attracted to positions in vocational schools.
3. Expert trade workers are as a rule regularly employed and can not forego wage earning for a year or more in order to train for teaching.

Because of these and numerous other difficulties, it would seem as if the States, with their present facilities for training teachers, could not effectively deal with the problem without the aid of the National Government in providing training classes which will attract to them the expert workers in the trades.

The commission believes that this must be worked out by gradual experiment in part-time and evening classes which afford opportunities for persons who possess skill in their callings to acquire experience in classroom and shop instruction while still continuing their regular employment.

We can not rightly undertake a program of practical education in this country and carry it through successfully without teachers properly qualified by training and experience for their work and with practically no facilities for their proper training in the future.

Here and there are schools which have rendered good service by equipping instructors in manual training, but it is safe to say that at the present time not a half dozen schools exist in the United States which afford an adequate opportunity to secure thoroughgoing preparation for the teaching of trade and industrial subjects. Excellent as has been the technical preparation which the State colleges of agriculture and mechanic arts have given to their students, many of them have not as yet developed departments of education adequate to the task of training prospective teachers either of agriculture or the mechanic arts in the administrative and teaching problems of the vocational school. The comparatively poor support given to this feature of their work by some of the agricultural and mechanical colleges is shown by the fact that out of an appropriation of more than $2,600,000, made to them by Congress under the Hatch and Nelson Acts for the year 1912–13, these colleges spent less than $34,000 "for the preparation of teachers in the elements of agriculture and mechanic arts."

Vocational teachers are changing their positions much more frequently and shifting over wider areas than other teachers. This is because the demand outruns the available supply. Their mobility is such that the question of their training is one which transcends all community and State lines and becomes an issue as nation wide in importance as the protection of migratory birds or the vocational training of migratory workmen. Without national encouragement, the States should not be expected to undertake the burden of preparing teachers of vocational subjects only to have them attracted away to the schools of other States which have paid no part of the cost of their training. To wait for the States to undertake alone the task of preparing capable instructors is to delay for at least half a century the carrying out of any extensive program of vocational education.

Many of the chief educational officers of the various States favor national grants for the training of the vocational teachers and give a variety of reasons for their answers, among which are these:

There is a shortage of teachers for such work.

More training schools are needed.

We can not have our schools as efficient as we want them without the proper training of teachers.

We have a few teachers trained for vocational subjects, but our funds do not justify the training of others.

There is a demand for well-trained teachers in the various lines of vocational education, and the State does not feel that it can afford to incur the added expense.

The State needs much larger appropriation than has yet been regarded possible to do this work.

We need national grants for the preparation of teachers because the State is not able to do it at all.

We could use national aid for the preparation of teachers in vocational subjects and would need funds badly for this purpose if we had the money available to carry on vocational work itself, which also needs Federal encouragement.

This State certainly needs aid in the preparation of teachers because of our financial limitations.

Grants for the training of teachers would help in the State by emphasizing the importance of this work.

Without aid from the National Government in the training of teachers for the work, backward educational developments will shut off any advancement along this line for a long time.

To stimulate the State to do more in this line of work in education.

Such grants would raise the standard of education among vocational teachers.

We need more and better teachers and national aid will encourage and assist in their preparation.

This State will welcome and be able to use national aid and with it invite proper supervision.

National grants are needed to even things up. This State is training teachers for vocational schools and already many of them are teaching in other States; on the other hand, many of our own are trained elsewhere.

The product of the school system of any one State does not remain in that State as he will migrate more or less into other States, consequently the good or bad effects of a school system of any one State must be shared by other States.

Economic differences between the States make justifiable and necessary the participation of the National Government in such things as the training of vocational teachers.

This State needs help in the problem of training vocational teachers. We do not know how to do it.

National grants would standardize the work and make it efficient and would also stimulate the State to activities along vocational educational lines.

A SUMMARY OF THE REASONS GIVEN FOR NATIONAL GRANTS FOR THE TRAINING OF VOCATIONAL TEACHERS, given above, covers the following points:

1. In practically all the States teachers of vocational subjects are scarce and there are few schools with proper facilities for training them.

2. Vocational schools can not be made efficient without properly trained teachers, and hence in many States vocational training will be retarded for a long time.

3. The financial burden of conducting vocational schools and providing at the same time for the training of teachers is too heavy for many of the States.

4. National grants for teachers would emphasize the importance of vocational education and help to standardize the teaching.

5. The economic differences among the States and the migratory character of teachers justifies the Nation's aid in training them.

6. The States do not know how to undertake the work alone and need the cooperation of the National Government.

GRANTS FOR PAYING THE SALARIES OF TEACHERS.—Regarding the various ways in which the Federal Government might aid the States in promoting vocational education, the commission is of the opinion that part payment of the salaries of vocational teachers is the one which will be most satisfactory and most easily safeguarded.

In arriving at this decision the commission has taken into account such points as the following:

1. The salaries of teachers are usually the largest item of school expenditure. These are frequently too small to attract high grade men and women to the work, but with the aid of the National Government the States could pay larger salaries and so could more easily secure and retain such persons.

2. The National Government's concern is to encourage vocational education by placing the emphasis on the vocational side of the work. By partially relieving the States of the excessive burden of paying for vocational teachers it will be easier for them to carry on the supplementary instruction necessary to complete well-rounded

courses fitting for intelligent citizenship as well as successful workmanship.

3. The administrative features should be made as simple as possible. Where grants are made for the maintenance of schools, the way is left open for all sorts of irregularities, which may result in serious difficulties between a State and the Nation as cooperating agencies. When disbursements are confined to the payment of salaries, the accounting between local, State, and National authorities is a simple matter, and gives rise to no difficulty.

4. The cooperation of the Nation and State in paying salaries of teachers would necessitate cooperation in getting good ones. This, however, would be accomplished with a minimum of interference on the part of the Nation, and with a maximum of initiative and control on the part of the State. It would be comparatively easy for the State and National authorities to agree on the minimum qualifications of vocational teachers, leaving the local authorities free to select those who would measure up to the requirements. The States would be left free to increase these requirements as they saw fit.

5. Where the Nation's part in the cooperative arrangement between it and the State is confined to the vocational teacher, the autonomy of the State is safeguarded in the conduct of its own schools, while at the same time the expenditure of Federal money is also safeguarded in the assurance that the State is employing reasonably well prepared teachers.

From all points of view therefore, the commission believes that the wisest way in which the Federal Government can aid the States in promoting vocational education is by giving grants for the partial payment of vocational teachers in agricultural and in trade and industrial subjects.

Teachers, supervisors, and directors of agricultural subjects.—The commission has thought best to recommend that so far as agriculture is concerned the grants to the States for the part payment of salaries of teachers should include also supervisors and directors of agricultural subjects.

During the preparation of this report the commission sent a special inquiry to the State superintendent of public instruction of the various States as to whether they felt the money for agricultural instruction for their respective States could be best expended for teachers' salaries or for the salaries of supervisors and directors of agricultural education.

The replies showed that about 50 per cent favored appropriations for teachers' salaries only, and about 50 per cent favored appropriations for the salaries of supervisors and directors only. The reasons given for the choice in each State are set forth at the close of the report.[1]

In view of the fact that one plan seemed to be best adapted to about half the States and the other plan to the other half, the commission decided it would be advisable to so frame the bill as to leave it possible for each one of the States, in the exercise of its autonomy, to expend the appropriation for agricultural education either for the salaries of teachers of agricultural subjects giving actual instruction

[1] See Appendix K, p. 159.

in the classroom, or for the salaries of supervisors and directors of agricultural subjects.

At the same time, the commission recommends that the school receiving the benefit of these grants be required to supplement the instructions given to promote vocational knowledge and skill, by such additional courses as will complete a well-rounded training in general and civic intelligence.

Government recognition and support of education for the farm and the shop will give everywhere not only prestige to vocational training, but will add greater importance and dignity to the occupations performed by the great army of productive workers in the country.

CHARACTER OF INSTRUCTION.

The instruction in agricultural and in trade and industrial subjects, supported in part by the grants herein proposed, is to be of less than college grade and designed to meet the vocational needs of persons over 14 years of age. It is to be of secondary grade in the sense that it is to be adapted to the interests and needs of those at or above the adolescent age, but it should afford opportunities for vocational training to youths at 14, who have completed the compulsory school attendance, but who may not have completed the full course of the elementary schools.

The minimum age of 14 years has been set as one of the entrance requirements to vocational training for agriculture and the trades and industries, as discussed in this report, for these reasons:

1. The theory and established practice of American education is that the school time of children up to 14 years of age should be given to the acquirement of a general education, upon which any special training must be based. This does not mean that general education may not have strong vocational elements in it, but it does mean that direct preparation for a vocation should not begin before that time.

2. Up to the age of 14 there should be opportunity for prevocational training to arouse and fix the interest of pupils in the productive work and workers of the world, to show the possibilities of scientific farming and intelligent industry, and to aid the youth to choose more intelligently the kind of training he prefers and the calling he wishes to follow. Prevocational training of this kind in the elementary schools is obviously a phase or part of a general compulsory education, which is already being undertaken and which may, for the present at least, be left to the States.

3. Not only are children under 14 years of age too immature in mind and body, too lacking in experience and self-initiative, to undertake special, thoroughgoing training for a life work, but most of the skilled and desirable trades and industries do not admit young workers under 15 or 16 and therefore do not provide either apprenticeship or other forms of instruction below that period.

THREE TYPES OF SCHOOLS PROPOSED.

An adequate program of vocational education designed to prepare for useful employment must provide instruction both for those who desire preparation for a calling before entering it and for those whose advancement depends upon additional training of some kind after

they have become employed. The commission has therefore proposed that the grants for teachers of agricultural and trade and industrial subjects whose salaries are paid in part by national grants shall be used in three different types or kinds of schools—all-day schools, part-time schools, and evening schools. In an all-day school, as the term is used in this report, the pupil would devote the entire school day to instruction. In part-time schools, those already employed would give a portion of their working time for further education. In evening schools mature workers (over 16 years of age) would attend evening classes giving instruction supplementary to their day employment.

So far as agricultural education is concerned provisions have already been made for agricultural workers through the Smith-Lever Act, similar to those proposed in this report for industrial workers, through part-time and evening schools; hence the discussion of these types of schools will be confined largely to those employed in trades and industries.

The Smith-Lever Act provides wisely and liberally through national grants to the States for agricultural education for the mature farmer through farm demonstration and farm-extension work, which will carry expert knowledge and advice from the agricultural and mechanical colleges and experiment stations to remote neighborhoods, and reach the man on the farm. While undoubtedly this will extend, in some measure, beyond the adult farmer and his wife to the boys and girls of the family, stimulating their interest in the possibilities of farm life, yet the provisions of the Smith-Lever Act need to be supplemented by national grants to the States for teachers, supervisors, and directors of agricultural subjects in district agricultural high schools or in agricultural departments of rural high schools.

The most opportune time to train the boy is during his adolescent period, when he has already gained much knowledge of farm work and its requirements and is at the age when he is most ambitious, most alert, and therefore most teachable. The agricultural school will awaken his interest, turn his attention to the large possibilities of a scientific and businesslike agriculture, and give him an elementary knowledge of right methods of farming which will start him in his career as a farmer and prepare him to use with profit the scientific and practical information which magazines, bulletins, and farm-extension teaching are bringing to his door.

Although the instruction in agricultural subjects recommended in this report would generally be classified under all-day schools, there is a certain sense in which it might be called part-time training. Boys and girls who attend school in the country have a round of farm and home duties which serve the purpose of practice. Farming is also to some extent a seasonal occupation, which leaves several months in the year largely free for boys and girls to pursue further work in the schools. To the rural schools is thus afforded an excellent opportunity to supplement the work of the farm with further schooling directly related to it.

Agricultural high schools, or agricultural departments in high schools, should provide opportunities for practice and demonstration work on a school farm, in addition to connecting their teaching of agriculture with the practical knowledge which their pupils are gaining on the home farm. The teacher of agricultural subjects should

require pupils under his direction, as a part of the instruction at home, to carry on experiments and projects in such subjects as gardening, poultry raising, dairying, orcharding, small animal husbandry, and general cropping. Many of the schools have already adopted the excellent scheme of employing their teacher of agricultural subjects from the 1st of March to the 1st of December, so that he may give class instruction connecting his teaching with the home work of his pupils during the spring and fall months, and spend the planting and harvesting season in field work with them on their home farms.

The commission believes that an organization of the instruction in agriculture in rural schools on a part-time plan, which gives attention to the scientific facts of agriculture as they are related to the actual work on the farm, will stimulate his interest in both his farm work and his school work.

Such a school will become the center for the community interests and needs. Boys will find there a practical supplement to their work and will discover that the work of the farm has a new and fascinating interest when coupled with the practices of the science upon which it is based. They will discover that agriculture, instead of being drudgery, is in reality the most scientific vocation in the world, involving a wide range of knowledge of many sciences, responding in increasing returns to the application of the things they learn. There will be little danger of the boy leaving the farm when he is educated to see the scientific side of agriculture.[1]

ALL-DAY INDUSTRIAL SCHOOLS ARE NEEDED IN THIS COUNTRY, particularly for children between 14 and 16 years of age.

As this report has already emphasized, a large majority of the boys and girls in the United States leave school to go to work at 14, and many of them before completing the elementary school. Because of their limited education, their entire lack of skill, and their immaturity, they are obliged to pick up odd jobs as best they can or remain about home to become idlers. They are not old enough to take up a trade nor to enter upon an apprenticeship, and in the main the doors of the more desirable skilled employments are closed to them below the age of 16. The result is that they shift about from one occupation to another, with little or no opportunity to advance in either skill or earning capacity beyond that which brings a meager subsistence. The outlook for their future is discouraging, and it is little wonder that many of them drift out to join the army of the unemployed. In the State of Connecticut the records show that children who go to work between 14 and 16 years of age change their jobs on the average of twice a year.[2]

It is impossible to estimate the evil effect of this purposeless and irresponsible service or to reckon the tremendous cost to the industries of the country. Yet of far greater significance than the economic waste is the untold human waste. It is universally conceded that the failure of the schools to meet the needs of the children between 14 and 16 years of age with specific vocational training, and the tendency of industry to use their labor in monotonous processes, combine to make these years wasted or worse than wasted for the majority of those who leave school to go to work. It is true that some who enter employment untrained at 14, and who do not have a chance for further training, rise in later years through sheer force of native qualities to a high level. By far the larger number, however,

[1] Report of the Indiana Commission on Industrial and Agricultural Education, 1912.
[2] Statement by State board of education.

soon reach in their employment their highest earning capacity, which they find inadequate for the maintenance of decent standards of living when they become men and women.

The causes which lie back of the withdrawal of the great mass of our children from school at the age of 14 are many, but one of them is doubtless the lack of interest in the school and failure on the part of pupils or their parents to see sufficient practical good in further schooling. The lure of wages, frequently combined with a temporary necessity to earn money, is so great that many drop out of school and away from further education. There is considerable evidence, however, that economic pressure is a less potent factor than is sometimes supposed in taking children away from school as soon as the compulsory period has expired. On the other hand, there is every reason to believe that the schools are not sufficiently purposeful for the boys and girls who, knowing that they must soon become wage earners, are interested in life's activities at an early age.

There exists in many of the States a pronounced tendency toward raising the compulsory attendance age beyond 14 and up to 16 years of age. Where this is done every consideration requires the development of a type of education for the children retained in the schools which will minister to their vocational as well as their civic needs.

Clearly the problem is to provide within our system of education schools which will meet the needs of these children whom the present schools are not reaching effectively, and to offer courses suited to their interests and abilities.

The results which may be expected from the all-day industrial schools are—

1. The retention in school longer of boys and girls who now leave because of their lack of interest.

2. A wiser choice of a vocation because of an opportunity to test the ability and to discover likes and dislikes.

3. Greater certainty of success in a vocation because of the development of a more definite purpose in life, of an increased industrial intelligence, of an insight into the fundamental principles of a trade, and the acquisition of sufficient skill to shorten the period of apprenticeship.

4. A greater readiness to profit by part-time or evening instruction for the sake of future advancement or promotion.

Although the all-day industrial school can seldom teach a trade in the full sense of the term, experience shows that it can do much to prepare boys and girls over 14 years of age for the trades. By using the full time of the pupils, practical or shop work can be supplemented by the related studies in English, civics, industrial history and geography, and elementary economics, as well as by the science and mathematics underlying the trades. In this way the school will make for intelligent and worthy citizenship as well as for superior workmanship in the years to come.

A system of education which does not provide all-day schools for boys and girls who desire training for an industrial pursuit before entering it may justly be charged with driving them out of the schools and into the factories and workshops. If therefore all-day industrial schools did nothing more than hold the children in school until they

were more mature in mind and body and until the doors of desirable trades were open to them it would be worth all its costs. But when coupled with this is the opportunity to help them discover their aptitudes and to improve their civic and industrial intelligence so that they are better able to take advantage of their opportunities, the value in social and economic well-being to themselves and to society is immeasurable.

Minimum requirements for all-day schools.—In order to insure a minimum degree of efficiency in all-day schools the commission has recommended that grants for teachers of trade and industrial subjects be used only in those schools or classes which require that at least half the time be given to actual practice on a productive or useful basis, either in the school shop or in a commercial shop, the remainder of the school day being used for the teaching of related and general subjects. It further recommends that the training in such schools shall extend over not less than nine months per year and not less than 30 hours per week. No recommendation as to the number of years is made, because the commission recognizes that the length of the course must vary with differing conditions, but it believes that wherever possible this should continue through at least two years. Under conditions satisfactory to the State and national boards, cities and towns of less than 25,000 population may make special arrangements as to length of sessions and number of hours per week.[1]

PART-TIME INDUSTRIAL AND TRADE SCHOOLS ARE ALSO NEEDED.—There are in this country 4,500,000 persons between the ages of 14 and 18 who are not in school, having left to enter the ranks of the breadwinners. Nearly 2,000,000 of these are children under 16 years[2] of age, the large majority of whom have left school before completing their elementary education, and are therefore handicapped by lack of schooling either for successful wage earning or for intelligent citizenship. These young people are neither prepared to choose a vocation intelligently nor to follow it with sufficient prospect of future advancement, because the schools have assumed no responsibility for their preparation for employment before they must become wage earners, and have not provided for continued training through part-time schooling after they have gone to work. Under present social and economic conditions it is probable that the all-day industrial school, when developed to the full, will not reach more than a meager percentage of the youth of the country. By far the largest number must be reached by the part-time schools which will take a part of the working time of young persons between 14 and 18 years of age for continued education, either along the line of a chosen vocation or of general civic intelligence.

While, therefore, it is important to provide for preparatory vocational training for every boy and girl who can afford to spend even a year or two in school, beyond that which is required by law, it is more important to provide for that great mass of children whose education is at present terminated by entrance to a "job," and whose only prospect for further education is dependent upon its not being divorced from the possibility of wage earning at the same time.

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[1] See Chs. VI and VII, pp. 70 to 87.

[2] Based on census figures of school attendance. There were 4,463,958 persons 14 to 18 years of age in 1910 who were not in school, and 1,814,085 of them were between 14 and 16 years of age.

To a large extent the schools have abandoned the adolescent wage earner entirely to the shop and the factory and have taken no further responsibility or care for his preparation or guidance, just at the time in his life when he most needs discipline, instruction, and the direction of his newly awakened social, civic, and industrial interests.

Part-time schools will be of great advantage to those who have secured in the all-day school preparation for entrance to a trade, as such boys and girls will, without doubt, realize the value of training and eagerly seize upon every opportunity for advancement.

Part-time schools are needed also to realize immediately upon the elementary-school education, which the youth have received before entering industry. Many would be glad to avail themselves of further training if they could secure it at this time, but after a lapse of years in wage earning it is difficult to induce them to "go to school" because they have frequently lost their capacity to learn and forgotten much of their previous instruction.

Often, too, a little trade experience arouses a desire for further training. In one of the States where a study of the need for part-time schools was made—

> 70 per cent of the young workers interviewed were found to favor part-time schools, and their industrial experience was probably responsible for this attitude. They had worked long enough to begin to realize their deficiencies in education and to know the value of training along industrial lines.[1]

The part-time school is particularly needed for working children, because both physicians and social workers are agreed that the attendance upon evening schools of immature children under 16 years of age, after the strain of a long day's toil, brings in its wake far more physical injury than educational advantage.

There are many who believe that while all-day industrial schools can give general industrial intelligence and helpful preliminary training for entrance to a trade, and that real trade preparation may be given to a limited few over 16 years of age in special trade schools, the understanding of the technical and theoretical part of a trade can in general be mastered only by those who are already engaged in actual practice in that trade through teaching in part-time schools.

The knowledge of a typical factory worker of to-day goes no farther than his own operation or machine. He has little if any understanding of the relation of his work to that of others engaged in the same industry and no general understanding of the business as a whole. This has brought a lack of effective cooperation in manufacturing and has made the task of the superintendent and foreman more difficult than ever before. Part-time schooling for the factory worker would be of the highest social as well as economic value if it gave him an appreciation of the entire trade and helped him to understand his place and relationship in it.

Under our present highly specialized industrial system, which affords practically no opportunity for the worker to acquire any knowledge of the industry beyond his own special and narrow task, there is a lack of competent foremen, which, although met in part by trade and technical schools, must be largely met by the part-time schools which enable the workers in an industry to advance through successive steps to these more responsible positions.

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[1] The Needs and Possibilities of Part-time Schooling, Massachusetts Board of Education, 1913

Large-scale production, the specialized machine, and the extreme division of labor, coupled with the close competition which has made the individual employer unable and unwilling to train workers for the benefit of his rivals, has, as has already been stated, driven out the old system of apprenticeship where each journeyman trained a helper, and even if it could be reestablished it would be wholly inadequate to our present needs. A system of part-time schooling, setting up a cooperative arrangement between the shop and the school for the instruction of the youth in the practice and theory of a calling, is not only a revival in modern form of the old apprenticeship plant, but a great improvement upon it.[1]

We can place more reliance upon the shop when it undertakes to teach skill in mechanical processes than upon the school, but the shop has never been very successful as a teacher of the theory of a trade. On the other hand, the school can, when it has secured the proper teachers, be depended upon to give the technical and scientific knowledge needed. A system of part-time education will bring shop and school into cooperation with each other so that each may contribute its share in the training of the youth.

As a result of the sweeping economic and industrial changes, the old personal bond between the master and his journeyman has practically disappeared and in its place has come a new and impersonal relation between the corporation and the large and shifting body of workers with which it deals. The employer, generally speaking, no longer has a sense of responsibility for the proper training of his workmen, nor has the employee the old-time feeling of loyalty and interest in the success of the business. Part-time schooling can be made to create a new sense of joint responsibility between employer, employee, and the school, for the training of the worker and the integrity of the calling.

The purpose of part-time schools should be twofold—

1. To increase the general intelligence of young workers and lead them to understand better their social and civic duties.

2. To increase their industrial intelligence and skill and develop capacity for advancement within a given trade where such opportunity exists, or where it does not to prepare for some skilled and remunerative work in another line.

All young persons employed in industry should be reached by the part-time instruction which the commission believes should be encouraged by Federal appropriations. Those most intimately acquainted with the problem are strongly of the opinion that any constructive plan of part-time schooling in this country must be broad enough in its scope and flexible enough in its purposes and courses to benefit young persons who have gone to work by giving them the training which best meets the variety of their needs due to wide differences in ability, in previous schooling, in ambitions and aims, and in the kinds of work upon which they have entered.

The problem of giving further training to young wage earners so as to provide for enlarged opportunities when they are older is by no

[1] The changes in our methods of manufacturing have made it easily possible for young people employed on the specialized job to earn a much larger wage than those who are still being trained by the old system of apprenticeship, which aims at the ultimate efficiency, rather than the immediate earning power of the apprentice. This condition makes it next to impossible to hold young workers to the completion of an apprenticeship in the face of the constant and insistent temptation to take specialized jobs at higher wages. (Report on part-time schooling, Massachusetts Board of Education, 1913.)

means a simple one. Only a few of them are employed as beginners in occupations within skilled and desirable industries where they have need of further knowledge and skill either for the work they are doing or as a preparation for promotion and advancement in their chosen trades. The great body of the children between 14 and 16 years of age are engaged in low-grade skilled or unskilled work, much of which is monotonous and automatic in character, brings low wages, and offers little, if any, prospects of larger wages or advancement for the future.

It has already been pointed out in this report that an overwhelming majority of these children go to work without completing the elementary schools and are deficient in general and civic as well as industrial intelligence. Very little, if any, of the work which they are doing is of a character which will permit of directly related teaching so far as strictly industrial subjects are concerned. The industrial experience which they are having, however, in their daily employment is frequently such as to enable them to profit greatly by subjects which, while not definitely connected with their particular job, do nevertheless lead to greater industrial intelligence and greater surety of future success as trade workers.

The commission has therefore recommended that, so far as part-time schools for young wage earners under 18 years of age are concerned, the national aid shall be given for teaching in any subject designed to enlarge their civic or vocational intelligence.

The possibilities for instruction in part-time schools are varied.—It may provide, among other things, for—

1. Trade extension for the "next step up" within a given industry.
2. Trade preparation courses for boys and girls employed in juvenile occupations in order that they may enter other and more favorable occupations when they are older.
3. General improvement courses for those employed in occupations where advancement is dependent upon increased civic and general intelligence.
4. Home economics courses for girls who are employed in any line of industry.

The commission has recommended that not less than one-third of the money appropriated to the States for the salaries of teachers of trade and industrial subjects be expended on part-time schools, because it feels that every consideration requires that the States should begin at once to deal with this important subject. Schools benefiting by this grant are required to provide at least 144 hours of class-room instruction for young workers as a minimum, and wherever it is possible it is hoped that they will, by arrangement with the industries, secure a greater amount of time.

The stating of the minimum in terms of a total number of hours makes it possible for schools to give the instruction required either in a regular number of hours per week throughout the school year, or during the dull period of seasonal trades, or to make any variation which the conditions require.

THE EVENING TRADE AND INDUSTRIAL SCHOOL IS NEEDED because there is at the present time a greater demand by wage earners for evening-school instruction than for any other kind.

Young people often neglect their opportunities. The desire for wages, pure indifference, and other causes induce many to go to

work before they receive the advantages of an industrial education, even when it is offered, and to neglect, in many instances, the advantages of part-time schooling unless this is made compulsory by the States. The awakening which often comes after these chances are past leaves the evening school as the sole remaining hope.

So far as evening work for men, at least, is concerned, it is probable that the best immediate returns in increased economic efficiency from industrial or trade training come from instruction in the evening classes attended by adult workers. They have been in the shop long enough to realize their lack of preparation and its practical value; they have acquired sufficient skill and insight into mechanical processes to know what they need and come to the evening class determined to get it. The instruction, when given by a teacher who is himself familiar with the trade, can be made to appeal at every step to the interest and the previous knowledge and experience of the student.

At the present time the need for evening industrial and trade schools is at its greatest in this country. It must be used to bridge over the chasm which has resulted from the lack of industrial education in the past. While there will always be a place for the evening school to give many workers the training they need as the next step forward in their callings, a system of all-day and part-time industrial schools will greatly lessen this need. In Germany, as the result of 30 years of progress, they have been largely replaced by continuation schools, which are more and more becoming day schools. "The evening school may be an imperfect and temporary agency, but it is nevertheless the only agency to do a large part of the work which needs to be done." [1] Whereas the part-time school has for its particular province the training of the boy and girl between 14 and 18, the evening school is the only possible means of benefiting the more mature workers who are ambitious to advance themselves. The majority of the millions of workers who are employed in trades must be reached by evening schools, if at all.

The commission has recommended in this report that the national grants expended to pay in part the salaries of teachers of trade and industrial subjects in evening schools shall be used for class instruction which is supplemental to the daily employment of the students. The commission proposes this requirement because it believes that, so far as evening classes are concerned, instruction extending the trade knowledge of those who are already at work is most in need of Federal stimulation.

The commission recognizes the value and the comparatively large extent of general evening classes extending the general education of those who work during the day. It also recognizes that in some places considerable value is attached to what might be called trade preparatory evening schools, which give some initial instruction for entrance to trades and industries. Believing that the comparatively small amount of money available from the national grant can be best expended for trade-extension courses, when used in evening schools, the appropriation has been limited to their benefit, leaving the States to carry on the other two kinds of evening classes—a work they have already entered upon and which there is every reason to believe they will extend.

[1] Report of Indiana Commission on Industrial and Agricultural Education, 1912.

CHAPTER IV.

AID TO VOCATIONAL EDUCATION THROUGH FEDERAL AGENCIES.

In considering this subject, the commission submitted to six of the Federal departments, in advance of the hearings at which representatives of each appeared,[1] a list of questions inquiring as to the work of these departments for vocational education. While these questions necessarily differed in detail, in general they covered four broad points for each department:

1. The service for vocational education already rendered.
2. The possibility of additional service.
3. The funds needed to render large service for vocational education.
4. The relationship of the different departments to each other in the work already accomplished and the opinion of each as to what that relationship should be.

The replies of the departments to the questions submitted are presented in Appendix M, pages 181 to 200.

The commission has, as the result of these replies and of the testimony at the hearings of the representatives of national organizations of educators, of labor, and of employers, been much impressed with the work in supplying expert information and advice of value for vocational education which various Federal agencies have been able to accomplish with extremely limited funds and with as yet comparatively little financial encouragement on the part of Congress. One of the valuable ways, it would seem, in which the National Government could aid the States in dealing with the many different questions in the new field of practical training for our workers, would be that of grants to be expended through Federal agencies for making studies, investigations, and reports of whatever kind may be necessary from time to time to further the efforts of the States to place the work of their vocational schools on a scientific and businesslike basis.

Information About Vocational Schools and Classes.—A number of reports and bulletins about the actual work of vocational schools have already been published by different departments and bureaus of the Government, which have been helpful to the States in making courses of study and in deciding upon methods of instruction for agricultural and trade and industrial subjects. Thus far no such study has been made for commercial or home economics subjects. Largely because of the newness of the schools on this side of the water, and the great lack of funds and of expert experience and knowledge, it must be said that thus far no comprehensive plan or scheme of reports of this character has been carried out. There is

[1] For the full report of the departments at the hearings, see "Hearings before Commission on National Aid to Vocational Education," vol. 2 of this report, pp. 9-122.

a very great need at the present time throughout the country of a scientific and practical study extending through a period of years of many such important and helpful questions as the following:

1. A study of the movement for vocational education in other countries which will, with constant reference to the similarities or differences between their conditions and our own, furnish this country with an authoritative estimate of the causes lying behind the movement, the progress and tendencies of the work, the efficiency of different types of schools and their adaptation to American conditions and needs, and the educational, social, and economic results.

2. A study of the different types of vocational schools of all kinds which are in operation in this country, interpreting their courses of study and methods of instruction, in terms of their adaptation to the aim of the school, and the conditions to which they are to be adjusted.

3. A study of the efficiency, not only of the different types of schools but of all the vocational schools of the country, as measured by the success of their students.

4. Full information each year as to the progress of vocational education in this country, bringing up to date the statistics concerning schools already established, and calling attention to changes and tendencies, while at the same time laying particular emphasis upon new schools and new experiments and devices.

5. Information concerning such things as buildings, equipment, cost of instruction, supplies, and courses and methods of instruction, which will furnish first-hand knowledge to those desiring to establish new schools.

INFORMATION FOR AGRICULTURAL EDUCATION.—The Government has already done much to promote agricultural education through the Department of Agriculture. Large appropriations have been given, which the department has applied in making studies, investigations, and experiments concerning agriculture and agricultural processes, and the resulting information has not only been of use to the farmer but also to the agricultural schools in their courses of study.

Knowledge of agriculture is much more widely disseminated than knowledge of other vocational processes. On some phases of agriculture exhaustive work has been done. These studies and investigations should be continued, to furnish materials for a more scientific agriculture, and their scope should be broadened to meet the needs of a wider range of persons in farm life.

Much of the work already done has been of a highly scientific character. This work should not be neglected, but it should be supplemented by studies of the simpler processes applicable to the more common and every-day problems of the farmer.

It is highly important that, from the great mass of data at hand and from data to be collected from further studies, more direct application be made to the use of the material in giving instruction in agriculture.

INFORMATION FOR HOME ECONOMICS EDUCATION.—Several of the Federal departments and bureaus have already made numerous valuable studies affording information useful in the development of home economics education. A large part of this study has been along the line of foods—their preparation, composition, and nutritive values; and along the line of the construction, sanitation, and equipment of the farm home.

These studies have not only been of use in the country districts, but they have been of wide value to schools and colleges for their courses of instruction in home economics. The results have been productive of so much good that the work should be enlarged and extended with a view to placing training for the maintenance and care of the home on a scientific basis. Aside from studies which directly benefit the individual home maker, there is great need of larger and more detailed information regarding vocations which are based on a knowledge of home economics—callings such as those of the dietician, the institutional manager, the matron, the lunch-room or tea-room manager, the professional cook, and other similar occupations.

The problem of home economics training for the great mass of girls who spend their early years as wage earners in stores, shops, and factories, is also one for serious consideration and investigation, and one that has as yet hardly been touched, although it is perhaps more important and far-reaching than any other. Especially needed are such studies as those relating to the purchase and care of clothing, the conservation of health and the maintenance of efficiency through proper food and exercise, the planning of personal and household budgets, the proper sanitation and ventilation of home and work-room surroundings. Such studies as these and many others will be greatly needed in the development of part-time education for girls who are already at work and would also be highly valuable in developing courses in home economics for young housekeepers who have not had the opportunity for such training in our schools.

While approving of every possible means of extending the more scientific studies and research for the development of home economics, the commission feels that the particular need at the present time is for material which will reach down to the average girl, who goes neither to high school nor to college, but upon whose training for the care of a home and family the future welfare of society will largely depend.

INFORMATION FOR COMMERCIAL EDUCATION.—What has been said before of the need of wider knowledge for agriculture and for industries is equally true in general as to commerce for the purposes of commercial education. Among the many questions concerning which the country should have information for use in the training of commercial workers, the following have been suggested:

Supply and demand for trained commercial workers.

Distribution of commercial workers.

Selection and placement of commercial workers.

Descriptive analysis of the world of commercial pursuits in the broad lines of employment, such as banking, accounting, business management, executive service, salesmanship, and ordinary clerical work.

Descriptive analysis of each one of these lines of employment into specific occupations and of each occupation into such important factors as: Source of supply of commercial workers; prevailing salaries; demands upon the worker as to general and commercial education; opportunities offered for training for higher responsibility; next position in regular order; how far previous experience prepares for the next position; the additional school training necessary as proper preparation for advancement.

The changing conditions of commerce, which bring changing requirements upon the commercial workers in any line of commercial employment.

The requirements upon commercial workers in dealing with foreign commerce.

The number and classes of foreign commercial schools of different types.

INFORMATION FOR TRADE AND INDUSTRIAL EDUCATION.—We now furnish a large amount of information to aid the farmer in meeting

his problems. It is just as necessary that the Government should supply knowledge for the better preparation of human labor in industry as that it should furnish information concerning soil fertility, fertilizers, pests, insects, and the best methods of farm organization for the farmer.

There is a great and pressing need for an analysis of our industries as the first step in forwarding an intelligent program for the training of industrial workers. We need an intensive study of the requirements upon wage earners in the specific occupations into which each industry is divided. Not until this is done will it be possible to know in an accurate and comprehensive way the particular kinds of training which any group of workers should have or how that training can best be given.

Among other helps for industrial education we need such things as the following:

To analyze the industries into their branches or occupations.

To ascertain what the worker in each of these occupations needs in skill and knowledge.

To learn how far this skill and knowledge can be obtained in regular work in the occupation.

To know what use is made of apprenticeship, cooperative, and trade agreement plans for the training of workers in any industry.

To know what the industry fails to give in the way of skill and knowledge that the worker needs for thorough efficiency.

To learn what the school can do in this connection.

To make careful reports from time to time, showing the progress, present conditions, problems, and tendencies throughout the country of the movement for industrial education.

To secure timely knowledge of pronounced changes in industrial processes, materials, and organizations, which affect the proper education of workers to meet trade requirements.

There are many other questions that should be answered, of which the following are examples:

What is the preferred age for beginners in any given industry in this country?

What are the upper and lower limits as to the age of the efficient worker in any given occupation?

What are the upper and lower limits as to the wage received?

What are the sources of supply for workers in a given occupation?

What are the physical requirements upon the worker in a given occupation, such as strength, endurance, quickness, deftness, fineness of sight, accuracy?

How long does it usually take to train a worker for a given occupation?

What are the occupations within an industry to which a worker may advance?

How far does the work of his present occupation prepare the worker to meet the requirements of the new one?

What is the supply and demand for workers in the various industries and occupations?

In which industries and occupations is there the greatest opportunity at the present, or any given time, for desirable employment?

Only with such knowledge will it be possible to place industrial education in this country upon an intelligent basis. Only when we have learned these things will we be able to standardize the requirements for teachers, develop proper courses of study and correct methods of teaching, and measure the efficiency of the schools in terms of what their students are able to achieve. Some agency able to cope with the problem must assist the States in this task.

The need is as great for information concerning trade and industry for use in preparing workers to manufacture goods as it is for information concerning agriculture for use in the training of farmers. The high degree of specialization in industry, the complex character

of both our manufacturing processes and industrial organization, and the rapid and pronounced changes in our manufacturing life make the need for such a survey particularly urgent. In a nation-wide attempt to educate our wage earners, such intensive surveys of all kinds of occupations present a field for national service by Government agencies as large and important as it is indispensable and difficult.

It is not possible to rely upon individual employers for the information necessary for a program of industrial education national in its scope. Individual employers have had little or no experience in dealing with such problems in the large, and they would, of course, be inclined to look at it only from the standpoint of their own limited interest and outlook. Furthermore, to attempt the work in this way would result only in a piecemeal job. Each manufacturer would naturally find out things which might be of general use, but would employ them only for his own benefit. This would obviously result in a large duplication of effort. Even if the investigations of individual manufacturers were well made, there would be no opportunity for comparing results. Furthermore, there could not be the widespread publicity necessary to make such results available to everybody having the same questions to face.

Neither could the task be adequately accomplished through national organizations of employers. Such organizations have had little if any experience in doing this work. There are, comparatively speaking, few great national organizations of employers which are equipped to undertake such a task. The present interests of such organizations would not induce them to take the time or money necessary. There are, moreover, certain grave differences between employers and employees regarding certain matters in industrial training, and these differences might easily prove a handicap to either national labor organizations or national associations of employers if either attempted to handle this matter.

This method of getting information through special interests would require a long time, even if it could be successfully accomplished in the end. It would mean piecemeal and irregular studies with disconnected results and the absence not only of a country-wide and unbiased point of view and method of approach but also of the publicity which would be of the greatest benefit to all concerned.

The States can not deal individually with this matter.—No State is adequately equipped to handle it; no State has had any considerable experience, at least, with this kind of investigation; no State has even made a beginning in such work, nor could any State possibly have the necessary nation-wide point of view. Furthermore, a study of this kind by the States acting separately would be open to practically all the objections given above.

The work must be done by the National Government.—The training of our workers is a national question. It requires a national outlook to approach it properly. The National Government is the one unbiased agency for the task, and the only one capable of making comprehensive studies, which will be useful everywhere. Both States and individuals would have confidence in the work performed and the information disseminated by the Federal Government.

NATIONAL GRANTS FOR VOCATIONAL SCHOOLS CREATE A GREATER NEED OF ASSISTANCE from Federal agencies in securing information for use in these schools. If the States should support unaided their

own vocational schools this service by the Federal Government would be valuable, but with Federal grants for these schools the argument for larger Federal investments in expert information and advice has added force.

VOCATIONAL SCHOOLS AND CLASSES WILL BE SUCCESSFUL IN PROPORTION as their organization, courses of study, and methods of instruction meet continuously the changing needs and conditions of the vocations for which they give preparation. If the schools are to fit properly for vocations, all those in charge of them must have an opportunity to secure such progressive knowledge, and this can best be furnished through a Federal agency, that will give such studies a nation-wide point of view.

Should the Government establish a partnership or contract of any kind with the States for the benefit of any kind of vocational education, every consideration requires that the moneys expended in the venture should be accompanied by all the helpful knowledge which the Federal Government has gleaned or can glean from its studies. In order that every wage earner may be made an "all-round workman," the training which he receives either at the State or National expense should endeavor to prepare him as far as possible to meet successfully the varied demands of his occupation as it is practiced throughout the country. This requires an interchange of trade information such as only a Federal agency can give.

CONCLUSIONS.

Approaching the matter from an entirely unbiased standpoint, and with a desire to see how far the work of the Federal Government could be made of service in developing vocational education in the various States, the commission has, after due deliberation and numerous conferences with representatives of departments and bureaus, come to these conclusions:

1. That while excellent work has been done by the different Federal agencies in furnishing information and advice to the country, the service has been very greatly hampered by a lack of adequate funds at the hands of Congress with which to employ experts to make studies and investigations and to print and disseminate widely reports and bulletins and other literature.

2. Though the efforts of the departments in dealing with the subject have been praiseworthy, the commission feels that the work is to some extent hampered by a lack of close, intimate cooperation between the different departments and bureaus in gathering and using material resulting from the activities of their agents. There seems to be more or less overlapping and duplication of effort on the part of the bureaus which would naturally result in a waste of money and energy and a considerable possibility of misunderstanding, both of which obviously would not be conducive to efficient service.

3. Not only are additional funds needed for the purpose of giving a country-wide source of advice and information for vocational education in the most effective manner, but there are at least four departments of the Government now concerned with different phases of the subject which might well be organized into a clearing house for the purpose of dealing collectively with the task. In this way it would be possible to have a clear understanding as to the respective place and function of each department and bureau and the ways in which

they can best cooperate in making their material of greatest benefit to the States.

4. The commission has recommended, as hereinafter discussed more fully, a Federal board for vocational education charged with the administration of national grants to the States for the benefit of vocational schools. It is proposed that this board shall consist of the Secretaries of five Federal departments, four of whom are more or less intimately concerned with the task of supplying expert information and advice to the country for use in various kinds of vocational training.

Sound administrative policy, as well as many other considerations, would seem to require that the task of bringing about more intimate cooperation between the various departments and bureaus in the making of studies, investigations, and reports for vocational education, should be committed to the same Federal board which administers grants to the States for the schools in which this information is used.

A board so organized, already in close touch with the vocations themselves, through the work of the bureaus represented, and dealing more or less intimately with vocational education, would be in the best possible position to learn what kinds of information and advice are most needed from time to time in the States; would be best qualified to secure such knowledge in an accurate and scientific way, through the departments represented; and as a result of conferences would be able to prevent overlapping and duplication of work in the various departments and bureaus.

If an annual appropriation were made to this Federal board for use in such a way from year to year as it deemed advisable, the amount could be distributed by the board so as to apply varying portions from time to time to different studies in the proportion that the situation required. Having a broad point of view, and a sum of money entirely at its disposal, this board would be able to see the country's needs in a large way and to bring to bear upon them, when most needed, the expert work of Federal agencies.

The commission has therefore proposed that the sum of $200,000 annually be appropriated by Congress to this Federal board for vocational education to pay the expense of administering the grants to the States for vocational education and to make studies, investigations, and reports to aid the States in this work. The disposal of all the fund is left entirely in the hands of the board.

In order that the experience, expert knowledge, and facilities of existing Federal agencies may be utilized in this work, the commission has proposed that so far as may be deemed practicable by the board, all studies, investigations, and reports concerning agriculture, for the purpose of agricultural education, shall be made in cooperation with or through the Department of Agriculture; all studies, investigations, and reports concerning trades and industries, for the purposes of trade and industrial education, shall be made in cooperation with or through the Department of Labor; all studies, investigations, and reports concerning commerce and commercial pursuits, for the purposes of commercial education, shall be made in cooperation with or through the Department of Commerce; all studies, investigations, and reports concerning the administration of vocational schools, courses of study, and instruction in vocational subjects, shall be made in cooperation with or through the Bureau of Education.

CHAPTER V.

EXTENT TO WHICH THE NATIONAL GOVERNMENT SHOULD AID VOCATIONAL EDUCATION.

PRINCIPLES GUIDING THE COMMISSION.

The principles guiding the commission in considering the question of the extent to which national aid should be given to the States have been as follows:

1. As to appropriations to the Federal Board for Vocational Education:

This should be sufficiently large to meet the expense of administering the direct appropriation to the States for establishing vocational schools, and to provide also for securing and disseminating throughout the country such information on agricultural, trade and industrial, commercial, and home economics subjects as are needed to develop vocational schools in the country.

2. As to direct appropriations to the States for paying the salaries of teachers in agricultural and trade and industrial schools:

(*a*) Appropriations for agricultural and trade and industrial schools should be the same, since the two subjects are interdependent and since the welfare of the country rests upon the advancement of both equally.

(*b*) Grants to States should be sufficiently large to stimulate them to establish schools, but should not relieve them of their interest in, nor their responsibility for, the right development and conduct of their own schools.

(*c*) Appropriations should begin with small amounts, increasing from year to year as the work developed and as the States can use the money effectively, until a reasonable maximum is reached.

(*d*) Since the need for trained teachers will be immediate and fundamental to the efficient development of vocational schools, the appropriations for training teachers should begin with a comparatively large amount and increase comparatively more rapidly each year until the maximum amount is reached.

(*e*) Appropriations for any kind of vocational education should be given to the States on some basis of allotment which recognizes, among the States, the differences and inequalities in the task of providing opportunity for this training; should be in the form of reimbursement for approved work accomplished in vocational education; and should be distributed to the States only in part payment of, and in proportion to, the amount expended out of State funds for the same purpose.

(*f*) Grants allotted to the smaller States, which otherwise would be so small as not to stimulate their interest and cooperation, should be increased by a special appropriation, if necessary, to a reasonable minimum which will successfully encourage them to promote the work.

GRANTS PROPOSED BY THE COMMISSION UNDER THESE PRINCIPLES.

1. For the work of the Federal Board for Vocational Education, $200,000 annually. This money is to be used in administering the grants to the States as described below and in furnishing information and advice to the States as previously described.[1]

2. For the salaries of teachers, supervisors, and directors of agricultural subjects, $500,000 for the fiscal year 1915–16. This annual amount is to be increased at the rate of $250,000 a year until a total of $2,000,000 annually is reached in the fiscal year 1921–22. After that year the increase is to be at the rate of $500,000 a year until a total maximum appropriation of $3,000,000 annually is reached in 1923–24.

3. For the salaries of teachers of trade and industrial subjects, the sum of $500,000 for the fiscal year 1915–16. This annual amount increases for each subsequent year in the same manner as the grants for the teachers of agricultural subjects above, until the same total maximum of $3,000,000 annually is reached in 1923–24.

4. For the training of teachers of agricultural, trade and industrial, and home economics subjects, the sum of $500,000 for the year 1915–16; $700,000 for the year 1916–17; $900,000 for the year 1917–18; and $1,000,000 for the year 1918–19 and annually thereafter.

SUMMARY OF PROPOSED GRANTS FOR VOCATIONAL EDUCATION.—The table below gives the appropriations recommended for each purpose by years, the total for each year, and the total grants from 1915 to 1924, inclusive.[2]

Year.	Section 2. Appropriation for agricultural teachers.	Section 3. Appropriation for trade and industrial teachers.	Section 4. Appropriation for training of teachers, etc.	Section 7. Appropriation for Federal Board of Vocational Education.	Total for each year.
1915–16	$500,000	$500,000	$500,000	$200,000	$1,700,000
1916–17	750,000	750,000	700,000	200,000	2,400,000
1917–18	1,000,000	1,000,000	900,000	200,000	3,100,000
1918–19	1,250,000	1,250,000	1,000,000	200,000	3,700,000
1919–20	1,500,000	1,500,000	1,000,000	200,000	4,200,000
1920–21	1,750,000	1,750,000	1,000,000	200,000	4,700,000
1921–22	2,000,000	2,000,000	1,000,000	200,000	5,200,000
1922–23	2,500,000	2,500,000	1,000,000	200,000	6,200,000
1923–24	3,000,000	3,000,000	1,000,000	200,000	7,200,000
Total	14,250,000	14,250,000	8,100,000	1,800,000	38,400,000

APPROPRIATIONS TO THE STATES for the salaries of teachers of agricultural subjects should be in proportion to their rural population, according to the last preceding United States census. This was the plan followed in the Smith-Lever Act in allotting moneys to the States for the teaching of agriculture through farm extension and demonstration work. A precedent has thus been established which the commission believes to be on the whole the most equitable basis of distribution. Appropriations for the salaries of teachers of trade and industrial subjects should be allotted to the States in proportion to their urban population. Since the appropriation for the training of teachers is to be used for the preparation of instructors for home

[1] See Chs. IV, VI, and VII.

[2] These amounts do not cover three small special appropriations in 1915–16, which decrease each year thereafter and which are necessary to raise, as hereinafter described, first to $5,000 and later to $10,000, each of the funds allotted to the smaller States for the salaries of teachers of agricultural subjects, for the salaries of teachers of trade and industrial subjects, and for the training of teachers.

economics as well as for agriculture and the trades and industries, it should be allotted to the States in proportion to their total population.

The three following tables show the sums received by each State from each grant for the first year 1915–16 and the sums they will receive when the increasing appropriations from year to year have reached the largest annual amount, which will be in 1923–24, in the case of all salaries of teachers, and in 1918–19 in the case of the training of teachers. The fourth table which follows gives the total amounts proposed for each State for all purposes for the first 10 years.

Table showing amounts which each State would receive for the salaries of teachers, supervisors, or directors of agricultural subjects under the proposals of the commission.

[Allotments in proportion to the total rural population according to the last preceding United States census. Each State is guaranteed not less than $5,000 for each year prior to the close of the fiscal year 1921–22, and not less than $10,000 for each year thereafter.] [1]

State.	Rural population.		Allotment, 1915–16.	Maximum allotment, 1923–24.	Special allotment to guarantee $5,000 to each State in 1915–16.[2]	Special allotment to guarantee $10,000 to each State in 1922–23.[2] [3]
	Number, 1910.	Percentage distribution.				
Alabama	1,767,662	3.58	$17,900	$107,400		
Arizona	141,094	.29	1,450	8,700	$3,550	$2,750
Arkansas	1,371,768	2.78	13,900	83,400		
California	907,810	1.84	9,200	55,200		
Colorado	394,184	.80	4,000	24,000	1,000	
Connecticut	114,917	.23	1,150	6,900	3,850	4,250
Delaware	105,237	.21	1,050	6,300	3,950	4,750
Florida	533,529	1.08	5,400	32,400		
Georgia	2,070,471	4.20	21,000	126,000		
Idaho	255,696	.52	2,600	15,600	2,400	
Illinois	2,161,662	4.38	21,900	131,400		
Indiana	1,557,041	3.16	15,800	94,800		
Iowa	1,544,717	3.13	15,650	93,900		
Kansas	1,197,159	2.43	12,150	72,900		
Kentucky	1,734,463	3.51	17,550	105,300		
Louisiana	1,159,872	2.35	11,750	70,500		
Maine	360,928	.73	3,650	21,900	1,350	
Maryland	637,154	1.29	6,450	38,700		
Massachusetts	241,049	.49	2,450	14,700	2,550	
Michigan	1,483,129	3.01	15,050	90,300		
Minnesota	1,225,414	2.48	12,400	74,400		
Mississippi	1,589,808	3.22	16,100	96,600		
Missouri	1,894,518	3.84	19,200	115,200		
Montana	242,633	.49	2,450	14,700	2,550	
Nebraska	831,362	1.79	8,950	53,700		
Nevada	68,508	.14	700	4,200	4,300	6,500
New Hampshire	175,473	.36	1,800	10,800	3,200	1,000
New Jersey	629,957	1.28	6,400	38,400		
New Mexico	280,730	.56	2,800	16,800	2,200	
New York	1,928,120	3.91	19,550	117,300		
North Carolina	1,887,813	3.83	19,150	114,900		
North Dakota	513,820	1.04	5,200	31,200		
Ohio	2,101,978	4.25	21,250	127,500		
Oklahoma	1,337,000	2.71	13,550	81,300		
Oregon	365,705	.74	3,700	22,200	1,300	
Pennsylvania	3,034,442	6.15	30,750	184,500		
Rhode Island	17,956	.04	200	1,200	4,800	9,000
South Carolina	1,290,568	2.62	13,100	78,600		
South Dakota	507,215	1.03	5,150	30,900		
Tennessee	1,734,744	3.53	17,650	105,900		
Texas	2,958,438	5.99	29,950	179,700		
Utah	200,417	.40	2,000	12,000	3,000	
Vermont	187,013	.38	1,900	11,400	3,100	500
Virginia	1,585,083	3.21	16,050	96,300		
Washington	536,460	1.09	5,450	32,700		
West Virginia	992,877	2.01	10,050	60,300		
Wisconsin	1,329,540	2.69	13,450	80,700		
Wyoming	102,744	.21	1,050	6,300	3,950	4,750
Total, United States	49,348,883	100.00	500,000	3,000,000	47,050	33,500

[1] The amounts are based on the census of 1910. They would of course be changed somewhat by the census of 1920, for all allotments after that year.

[2] Since the total appropriation to the States is increasing each year the amount of the special allotment to the smaller States necessary to guarantee $5,000 annually and $10,000 annually will of course decrease each year.

[3] Based on the apportionment of $2,500,000.

Table showing amount which each State would receive for the salaries of teachers of trade and industrial subjects under the proposals of the commission.

[Allotments in proportion to the total urban population, according to the last preceding United States census. Each State is guaranteed not less than $5,000 for each year prior to the close of the fiscal year 1921-22, and not less than $10,000 for each year thereafter.] [1]

State.	Urban population.		Allotment, 1915-16.	Maximum allotment, 1923-24.	Special allotment to guarantee $5,000 to each State in 1915-16.[2]	Special allotment to guarantee $10,000 to each State beginning 1922-23.[2] [3]
	Number.	Percentage distribution.				
Alabama	370,431	0.87	$4,350	$26,100	$650	
Arizona	63,260	.15	750	4,500	4,250	$6,250
Arkansas	202,681	.48	2,400	14,400	2,600	
California	1,469,739	3.45	17,250	103,500		
Colorado	404,840	.95	4,750	28,500	250	
Connecticut	999,839	2.35	11,750	70,500		
Delaware	97,085	.23	1,150	6,900	3,850	4,250
District of Columbia	331,069	.78				
Florida	219,080	.51	2,550	15,300	2,450	
Georgia	538,650	1.26	6,300	37,800		
Idaho	69,898	.16	800	4,800	4,200	6,000
Illinois	3,476,929	8.16	40,800	244,800		
Indiana	1,143,835	2.68	13,400	80,400		
Iowa	680,054	1.60	8,000	48,000		
Kansas	493,790	1.16	5,800	34,800		
Kentucky	555,442	1.30	6,500	39,000		
Louisiana	496,516	1.16	5,800	34,800		
Maine	381,443	.89	4,500	27,000	500	
Maryland	658,192	1.54	7,700	46,200		
Massachusetts	3,125,367	7.33	36,650	219,900		
Michigan	1,327,044	3.11	15,550	93,300		
Minnesota	850,294	1.99	9,950	59,700		
Mississippi	207,311	.49	2,450	14,700	2,550	
Missouri	1,398,817	3.28	16,400	98,400		
Montana	133,420	.31	1,550	9,300	3,450	2,250
Nebraska	310,852	.73	3,650	21,900	1,350	
Nevada	13,367	.03	150	900	4,850	9,250
New Hampshire	255,099	.60	3,000	18,000	2,000	
New Jersey	1,907,210	4.47	22,350	134,100		
New Mexico	46,571	.11	550	3,300	4,450	7,250
New York	7,185,494	16.86	84,300	505,800		
North Carolina	318,474	.75	3,750	22,500	1,250	
North Dakota	63,236	.15	750	4,500	4,250	6,250
Ohio	2,665,143	6.25	31,250	187,500		
Oklahoma	320,155	.75	3,750	22,500	1,250	
Oregon	307,060	.72	3,600	21,600	1,400	
Pennsylvania	4,630,069	10.86	54,300	325,800		
Rhode Island	524,654	1.23	6,150	36,900		
South Carolina	224,832	.53	2,650	15,900	2,350	
South Dakota	76,673	.18	900	5,400	4,100	5,500
Tennessee	441,045	1.03	5,150	30,900		
Texas	938,104	2.20	11,000	66,000		
Utah	172,934	.41	2,050	12,300	2,950	
Vermont	168,943	.40	2,000	12,000	3,000	
Virginia	476,529	1.12	5,600	33,600		
Washington	605,530	1.42	7,100	42,600		
West Virginia	228,242	.54	2,700	16,200	2,300	
Wisconsin	1,004,320	2.36	11,800	70,800		
Wyoming	43,221	.10	500	3,000	4,500	7,500
Total, United States	42,623,383	100.00	500,000	3,000,000	64,750	54,500

[1] The amounts are based on the census of 1910. They would of course be changed somewhat by the census of 1920 for all allotments after that year.

[2] Since the total appropriation to the States is increasing each year, the amount of the special allotment to the smaller States necessary to guarantee $5,000 annually and $10,000 annually will of course decrease each year.

[3] Based on the apportionment of $2,500,000.

Table showing amount which each State would receive for the training of teachers under the proposals of the commission.

[Allotments in proportion to total population according to the last preceding United States census. Each State is guaranteed not less than $5,000 for each year prior to the close of the fiscal year 1918 and $10,000 for each year thereafter.][1]

State.	Population.		Allotment, 1915–16.	Maximum allotment, 1918–19, and annually thereafter.	Special allotment to guarantee $5,000 to each State in 1915–16.[2]	Special allotment to guarantee $10,000 to each State beginning 1918–19.[2] [3]
	Number.	Percentage distribution.				
Alabama	2,138,093	2.32	$11,600	$23,200	.....	.....
Arizona	204,354	.22	1,100	2,200	$3,900	$7,800
Arkansas	1,574,449	1.71	8,550	17,100	.....	.....
California	2,377,549	2.58	12,900	25,800	.....	.....
Colorado	799,024	.87	4,350	8,700	650	1,300
Connecticut	1,114,756	1.21	6,050	12,100	.....	.....
Delaware	202,322	.22	1,100	2,200	3,900	7,800
District of Columbia	331,069	.36	.....	.....	.....	.....
Florida	752,619	.82	4,100	8,200	900	1,800
Georgia	2,609,121	2.84	14,200	28,400	.....	.....
Idaho	325,594	.35	1,750	3,500	3,250	6,500
Illinois	5,638,591	6.13	30,650	61,300	.....	.....
Indiana	2,700,876	2.94	14,700	29,400	.....	.....
Iowa	2,224,771	2.42	12,100	24,200	.....	.....
Kansas	1,690,949	1.84	9,200	18,400	.....	.....
Kentucky	2,289,905	2.49	12,450	24,900	.....	.....
Louisiana	1,656,388	1.80	9,000	18,000	.....	.....
Maine	742,371	.81	4,050	8,100	950	1,900
Maryland	1,295,346	1.41	7,050	14,100	.....	.....
Massachusetts	3,366,416	3.66	18,300	36,600	.....	.....
Michigan	2,810,173	3.05	15,250	30,500	.....	.....
Minnesota	2,075,708	2.26	11,300	22,600	.....	.....
Mississippi	1,797,114	1.95	9,750	19,500	.....	.....
Missouri	3,293,335	3.58	17,900	35,800	.....	.....
Montana	376,053	.41	2,050	4,100	2,950	5,900
Nebraska	1,192,214	1.30	6,500	13,000	.....	.....
Nevada	81,875	.09	450	900	4,550	9,100
New Hampshire	430,572	.47	2,350	4,700	2,650	5,300
New Jersey	2,537,167	2.76	13,800	27,600	.....	.....
New Mexico	327,301	.36	1,800	3,600	3,200	6,400
New York	9,113,614	9.91	49,550	99,100	.....	.....
North Carolina	2,206,287	2.40	12,000	24,000	.....	.....
North Dakota	577,056	.63	3,150	6,300	1,850	3,700
Ohio	4,767,121	5.18	25,900	51,800	.....	.....
Oklahoma	1,657,155	1.80	9,000	18,000	.....	.....
Oregon	672,765	.73	3,650	7,300	1,350	2,700
Pennsylvania	7,665,111	8.33	41,650	83,300	.....	.....
Rhode Island	542,610	.59	2,950	5,900	2,050	4,100
South Carolina	1,515,400	1.65	8,250	16,500	.....	.....
South Dakota	583,888	.63	3,150	6,300	1,850	3,700
Tennessee	2,184,789	2.37	11,850	23,700	.....	.....
Texas	3,896,542	4.24	21,200	42,400	.....	.....
Utah	373,351	.41	2,050	4,100	2,950	5,900
Vermont	355,956	.39	1,950	3,900	3,050	6,100
Virginia	2,061,612	2.24	11,200	22,400	.....	.....
Washington	1,141,990	1.24	6,200	12,400	.....	.....
West Virginia	1,221,119	1.33	6,650	13,300	.....	.....
Wisconsin	2,333,860	2.54	12,700	25,400	.....	.....
Wyoming	145,965	.16	800	1,600	4,200	8,400
Total, United States	91,972,266	100.00	500,000	1,000,000	44,200	88,400

[1] The amounts are based on the census of 1910. They will, of course, be changed somewhat by the census of 1920 for all allotments after that year.

[2] Since the total appropriation to the States is increasing each year, the amount of the special allotment to the smaller States necessary to guarantee $5,000 annually and $10,000 annually will, of course, decrease each year.

[3] Based on the apportionment of $1,000,000.

Total amount to be disbursed as national grants for vocational education during years ending June 30, 1916 to 1925.

[The totals for United States are somewhat in excess of the sums for the 48 States because while the allotments are based on the total population of the United States no appropriation is provided for the District of Columbia.]

State.	1916	1917	1918	1919	1920
Alabama	$34,500	$49,615	$65,380	$78,825	$89,950
Arizona	15,000	15,000	15,000	20,000	20,000
Arkansas	27,450	37,820	48,190	57,850	66,000
California	39,350	57,735	76,120	91,925	105,150
Colorado	15,000	19,215	25,330	31,875	36,250
Connecticut	22,800	31,095	39,390	46,475	52,350
Delaware	15,000	15,000	15,000	20,000	20,000
Florida	15,400	18,840	23,280	29,875	33,850
Georgia	41,500	60,830	80,160	96,650	110,300
Idaho	15,000	15,000	15,200	21,500	22,800
Illinois	93,350	136,960	180,570	218,050	249,400
Indiana	43,900	64,380	84,860	102,400	117,000
Iowa	35,750	52,415	69,080	83,325	95,150
Kansas	27,150	39,805	52,460	63,275	72,250
Kentucky	36,509	53,505	70,510	85,025	97,050
Louisiana	26,550	38,925	51,300	61,875	70,650
Maine	15,000	17,895	23,590	30,375	34,450
Maryland	21,200	31,095	40,990	49,475	56,550
Massachusetts	59,950	85,595	111,240	134,350	153,900
Michigan	45,850	67,250	88,650	107,000	122,300
Minnesota	33,650	49,345	65,040	78,475	89,650
Mississippi	30,850	42,800	54,750	65,875	75,150
Missouri	53,500	78,460	103,420	124,800	142,600
Montana	15,000	15,000	15,000	21,125	22,350
Nebraska	20,450	28,000	36,900	44,500	50,800
Nevada	15,000	15,000	15,000	20,000	20,000
New Hampshire	15,000	15,000	16,000	22,500	24,400
New Jersey	43,550	62,445	82,340	99,475	113,850
New Mexico	15,000	15,000	15,600	22,000	23,400
New York	153,400	225,145	296,890	358,725	410,650
North Carolina	36,150	51,150	67,400	81,250	92,700
North Dakota	15,200	17,800	21,070	28,000	30,600
Ohio	78,400	115,010	151,620	183,050	209,300
Oklahoma	27,550	38,550	50,800	61,250	69,900
Oregon	15,000	16,060	21,170	28,250	31,900
Pennsylvania	126,700	185,885	245,070	295,925	338,450
Rhode Island	16,150	19,225	22,610	30,375	33,450
South Carolina	26,350	36,200	46,350	55,875	63,750
South Dakota	15,150	17,725	20,970	27,875	30,450
Tennessee	34,650	50,790	66,930	80,700	92,100
Texas	62,150	91,105	120,060	144,775	165,250
Utah	15,000	15,000	15,000	20,125	22,150
Vermont	15,000	15,000	15,000	20,060	21,700
Virginia	32,850	48,155	63,460	76,525	87,350
Washington	18,750	27,505	36,260	43,775	50,050
West Virginia	21,700	29,385	37,470	45,175	51,550
Wisconsin	37,950	55,655	73,360	88,525	101,150
Wyoming	15,000	15,000	15,000	20,000	20,000
Total, United States	1,656,000	2,307,740	2,977,880	3,632,400	4,125,300

Total amount to be disbursed as national grants for vocational education during years ending June 30, 1916 to 1925—Concluded.

State.	1921	1922	1923	1924 and 1925 each.	Total for 10 years.
Alabama	$101,075	$112,200	$134,400	$156,700	$979,395
Arizona	20,075	20,800	30,000	30,000	215,875
Arkansas	74,150	82,300	98,600	114,900	722,160
California	118,375	131,600	158,050	184,500	1,147,305
Colorado	40,625	45,000	53,750	62,500	392,045
Connecticut	58,225	64,100	80,850	92,600	580,485
Delaware	20,000	20,000	30,000	30,000	215,000
Florida	37,825	41,800	49,750	57,700	366,020
Georgia	123,950	137,600	164,900	192,200	1,200,290
Idaho	24,100	25,400	33,000	35,600	243,200
Illinois	280,750	312,100	374,800	477,500	2,720,980
Indiana	131,600	146,200	175,400	204,600	1,274,940
Iowa	106,975	118,800	142,450	166,100	1,036,145
Kansas	81,225	90,200	108,150	126,100	786,715
Kentucky	109,075	121,100	145,150	169,200	1,056,315
Louisiana	79,425	88,200	105,750	123,300	769,275
Maine	38,525	42,600	50,750	58,900	370,985
Maryland	63,625	70,700	84,850	99,000	616,485
Massachusetts	173,450	193,000	232,100	271,200	1,685,985
Michigan	137,600	152,900	183,500	214,100	1,333,250
Minnesota	90,825	112,000	134,350	156,700	966,735
Mississippi	84,425	93,700	112,250	130,800	821,400
Missouri	160,400	178,200	213,800	249,400	1,553,980
Montana	24,000	26,000	32,250	34,700	240,125
Nebraska	57,100	63,400	76,000	88,600	554,350
Nevada	20,000	20,000	30,000	30,000	215,000
New Hampshire	26,800	29,200	35,000	38,800	261,500
New Jersey	128,225	142,600	171,350	200,100	1,244,035
New Mexico	24,800	26,200	34,000	36,800	249,600
New York	462,575	514,500	618,350	722,200	4,484,635
North Carolina	104,150	115,600	138,500	161,400	1,009,700
North Dakota	33,200	35,800	46,000	51,200	330,070
Ohio	235,550	261,800	314,300	366,800	2,282,630
Oklahoma	78,550	87,200	104,500	121,800	761,900
Oregon	35,550	39,200	46,500	53,800	341,230
Pennsylvania	380,975	423,500	508,550	593,600	3,692,255
Rhode Island	36,525	39,600	50,750	56,900	362,485
South Carolina	71,625	79,500	95,250	111,000	696,900
South Dakota	33,025	35,600	45,750	50,900	328,345
Tennessee	103,500	114,900	137,700	160,500	1,002,270
Texas	185,725	206,200	247,150	288,100	1,798,615
Utah	24,175	26,200	30,250	34,300	236,500
Vermont	23,650	25,600	30,000	33,400	232,750
Virginia	98,175	109,000	130,650	152,300	950,765
Washington	56,325	62,600	75,150	87,700	545,815
West Virginia	57,925	64,300	77,050	89,800	564,155
Wisconsin	113,775	126,400	151,650	176,900	1,102,265
Wyoming	20,000	20,000	30,000	30,000	215,000
Total, United States	4,619,450	5,114,600	6,176,400	7,162,200	44,934,170

In Appendix L tables are given which show for a period of 10 years the amounts to be disbursed for the salaries of teachers, supervisors, and directors of agricultural subjects, trade and industrial subjects, and for the training of teachers.[1]

The bill proposed by the commission provides that no State receive prior to the close of the fiscal year 1921–22 less than $5,000 for the salaries of teachers, supervisors, and directors of agricultural subjects, and after that date less than $10,000. The same minimum allotments are proposed for the smaller States for the salaries of teachers of trade and industrial subjects. Not less than $5,000 before the close of the fiscal year 1921–22 and not less than $10,000 after that date is provided for the States whose grants would otherwise fall below these amounts. Similarly, a provision of $5,000 annually is made for each State for the training of teachers prior to the fiscal year 1917–18 and $10,000 for each year thereafter.

[1] See Appendix L, p. 173.

DISBURSEMENTS OF MONEYS ALLOTTED TO THE STATES are to be made by the State authorities to schools whose work is approved. The fund for the salaries of teachers, supervisors, and directors of agricultural subjects is to be applied only to the payment of one-half their salaries. This leaves to the State and local community the expense of meeting the other half of the salary of these vocational teachers and of providing all the facilities for the work, including school equipment and materials, the cost of all other instruction necessary to complete well-rounded courses of training fitting for intelligent citizenship as well as successful farming. It is difficult to state, because of the many varying conditions and different kinds of agricultural schools in which this money would be expended, what proportion of the total cost of instruction would be paid by the national contribution, but it is probably safe to say that it will approximate 33⅓ per cent, or $1 out of every $3 expended for the purpose.

Similarly the grant to the State for the salaries of teachers of trade and industrial subjects in approved schools and classes is to be used only to pay one-half of the salaries of these teachers, all the other expenses of every kind necessary to give proper civic and vocational education being met out of other funds provided by the people of the State through public taxation. Here it is even more difficult to estimate in general the probable apportionment between the Nation on the one hand and the State and local community on the other of the cost of trade and industrial instruction. A fair estimate would seem to be that in the case of an all-day school the national contribution would range from 25 to 33⅓ per cent of the entire cost of maintenance, while in part-time and evening schools it would range from 30 to 40 per cent of the cost.

GRANTS TO THE STATES FOR VOCATIONAL EDUCATION SHOULD NOT BE CUMULATIVE.—Their purpose is to stimulate the States to action now, not to accumulate moneys to be used at some time in the future or to build up an endowment fund for the benefit of their vocational schools. The commission has therefore proposed that unexpended balances in any one of the funds allotted to any State for salaries or for the training of vocational teachers be deducted by the National Government from the next annual allotment of the fund to the State.

CHAPTER VI.

CONDITIONS UNDER WHICH GRANTS FOR VOCATIONAL EDUCATION SHOULD BE GIVEN.

PRINCIPLES GUIDING THE COMMISSION.

1. It is the right and duty of the States, recognized by the Constitution and by precedent, to control and manage their own internal affairs, including education.

2. The Federal Government has no authority to control or manage the internal affairs of the States, nor can it take part in controlling or managing their educational systems.

3. Appropriations to the States for vocational education, like all grants, should be made with a full recognition and observance of the rights and duty of the States to direct and operate their own educational systems.

4. The development of vocational education at the present time is a matter of urgent concern to the Nation as well as to the States, and each owes a duty in its development in the interest of the general welfare.

5. The only way in which the National Government can perform its part in promoting vocational education in the States is through appropriations to the States to be expended by them for this purpose.

6. Both the provisions of the Constitution and a century of precedent have established the principle that, when the need is apparent, Congress is authorized to legislate for the general welfare by making grants to the States to stimulate and encourage the development of some new and urgent service vital to the well-being of the whole country, like agricultural and trade and industrial education.

7. Appropriations from the Federal Treasury to the States are funds which, as the property of all the people, should not be given to the States as mere gratuities or for the payment of particular items of expenditure or for purely local purposes, but for the performance of a definite service, which the national welfare as well as that of the State demands. All the moneys now being disbursed to the States are given on this principle. Not since the middle of the last century have disbursements of money for general purposes been made.

8. National moneys appropriated to the States for the performance of a definite service, such as vocational education, should not only be applied to a definite purpose but should be disbursed under such conditions and safeguards as will promise at least the reasonable degree of efficiency which the whole nation, through its representatives, regards as a fair minimum. Payments of Federal moneys to the schools by State authorities should not be made automatically nor as advancements or contributions, but as reimbursement for approved work actually accomplished.

9. National grants for vocational education should be given to the States, not for the purpose of assuming the burden of such education but of equalizing it among the States and of stimulating the work through funds supplementing the larger expenditures by the States and local communities.

10. National grants to the States should be given for vocational education under those conditions which will conserve and promote the local interest, initiative, and responsibility, with all of their recognized advantages.

11. National grants to the States for vocational education should be disbursed by them to local schools in proportion to the amounts which these schools, as an evidence of the extent and success of their work, expend for its support out of other public funds.

12. Appropriations out of the Federal Treasury of the money of the whole Nation should be accompanied by such a reasonable voice or participation by the National Government in cooperation with the States as will insure the proper expenditure of the money for the definite purposes of the grant and such as will insure a minimum of efficiency.

13. These principles can be best put into effect by a cooperative arrangement whereby a helpful and intimate working relation between the State and the Nation is established in which the State is left free to initiate, operate, direct, and support all its own vocational schools, and to expend, through its own authorities and agencies, funds from the Federal Treasury for the reimbursement in part of approved work that meets at least the minimum requirements set up by Congress. This sets up during the life of the cooperation what, in a sense, is a friendly partnership in which the State, as the resident owner, manages and operates the business of vocational education, and the National Government, as a nonresident investor, continues from year to year, or as long as the terms of the partnership are carried out, to invest funds in a business whose product of better citizens and better workmen is one of vital importance to the Nation.

ORGANIZATION AND ADMINISTRATION.[1]

ACCEPTANCE OF GRANTS.—The Federal statute appropriating money to be expended by a State for vocational education, which has been suggested by the commission, sets up, in effect, a proposal or offer of cooperation with a State under certain conditions. The first step required, therefore, in the establishment of cooperation between the State and the National Government is the formal acceptance of the provisions of the Federal act by the legislative authority of the State.

FEDERAL BOARD.—If the National Government is to appropriate moneys to the States under the terms of an agreement between them, an agency for the National Government and an agency for the State government must be created to carry out these terms. The commission has proposed that the national agency for this purpose shall be a Federal board for vocational education, consisting of the five Secretaries of the Departments of the Post Office, Interior, Agriculture, Commerce, and Labor.

[1] It has been necessary in preceding chapters, particularly in Ch. III, to discuss some of the conditions on which national grants are given to the States. These requirements are repeated in the present chapter in order to give a comprehensive statement of all the principal requirements made upon the State as a condition of grants.

These departments were chosen because of the intimate relation which they hold to various phases of vocational education in the country. The Department of Agriculture is directly concerned with agricultural and home economics education; the Department of Commerce is directly concerned with the problems of commercial education; the Department of Labor with the problems of trade and industrial education; the Department of the Interior, through the Bureau of Education, with the problem of vocational schools; and the Postmaster General represents a disinterested department which is broadly concerned with the affairs of the entire country.

The commission feels that there are good reasons which make advisable, at this time at least, the use of an ex officio board rather than the creation of a new commission for the purpose. The heads of these departments were chosen to give the large prestige to the work which its importance justifies. A lay board of administrators seems to be desirable, with a professional educator in the person of the commissioner of education as its executive officer.

A Federal board, made up of the heads of Federal departments, can serve the double purpose of administering the Federal statute effectively and of bringing together the work which the different departments have been doing for vocational education, in such a way as to establish more helpful relations between the departments and create a clearing house of information on the subject of vocational education which will focus attention on the problems in this field confronting the country.

STATE BOARD.—The commission has recommended that the agency acting for a State in the administration of national grants for vocational education should be a State board. The large responsibility of disbursing the Federal funds to approved schools should not be left to a single official. The importance and the difficulties of many questions in vocational education require that the broadest representation and point of view should be secured in dealing with them. A large part of the work of the State agencies would be judicial in character and can only be performed properly by a number of representative persons in conference, passing on the recommendations of executive officers.

A WORKING PLAN OF COOPERATION.—The initiative for the development of vocational education in any State rests with the State, through its State board. When any State has accepted the provisions of the Federal statute offering cooperation in the support of the work and has created a State board, it becomes the first duty of this board to prepare plans showing the way in which it proposes to expend the national grants for the salaries and training of vocational teachers. When these plans for any State have been approved by the Federal board, as conforming to the provisions and purposes of the Federal statute, cooperation is established between these two agencies for the use of Federal appropriations for vocational education in the State as long as the State board continues to follow the plan agreed upon.

In this way the State is left free to work out its own peculiar problems and to meet its own peculiar needs, subject only to the minimum requirements which the statute imposes. This plan recognizes that great differences exist between the States and that many different kinds of vocational education must be developed to promote the

interests of all the States. It would be impracticable to even attempt to impose the same kind of vocational schools and methods on all the States and would not be conducive either to helpful cooperation or the best results for the country as a whole. National grants are used therefore to supplement the other funds for the kinds of vocational education to which the States have contributed as being most essential to their welfare, and such grants are limited only to insure the use of funds to accomplish a national purpose and not merely a local one.

Rigid requirements should not be made by the Federal statute and the Federal board; but only minimum requirements which the States are free to adopt, or to reject in case they do not care to use the grant under the conditions; and which permit them to set up vocational schools and courses with higher standards than those required as a condition for national grants.

In order that the Federal board may know of the work of the State board in the supervision of schools and the use of Federal moneys for their support, the State board should be required to make an annual report to the Federal board. In order that Congress and the country may know of the progress in vocational education which is being made in the various States, and how the national grants for its benefit are being expended, the Federal board should likewise make an annual report to Congress.

MINIMUM REQUIREMENTS FOR NATIONAL GRANTS.

The purpose of national grants being, as has been stated, to stimulate a particular service which the country as a whole demands, appropriations to the States for vocational education should be so safeguarded that the money will be spent only for those kinds of training which the Nation wants and is therefore willing to pay for. Since the Nation can not take any part in administration of the schools in which the money is spent, the only way in which it can promote any greatly needed kind of vocational education, in which it has a mutual interest with the States, is by setting up certain minimum requirements which the States must observe as a condition to insure that the money will actually be spent by them for the purpose designed.

The conditions suggested by the commission are believed to be the minimum below which effective training of the kind needed can not be given. Some of the minimum standards established are applicable both to agricultural and to trade and industrial education:

1. All vocational education aided by national grants must be given in schools or classes supported and controlled by the public. This limitation needs no discussion to establish it as correct.

2. This education must be of less than college grade. This limitation is essential to keep the training on a plane where it can do the greatest good to the greatest number, by reaching the people who are most in need of it.

3. Agricultural and trade and industrial education should be given only to persons over 14 years of age, for this age is the earliest time at which effective vocational education can be given.

4. Agricultural and trade and industrial education must be designed to meet the vocational needs of persons who have entered upon, or

plan to enter upon, the work of agriculture or of a trade or industrial pursuit as a vocation. It is the definite purpose of this kind of education to meet vocational needs primarily and not to supply general education. The controlling purpose must therefore be to fit for useful or profitable employment.

5. Teachers of trade and industrial subjects, and teachers or supervisors or directors of agricultural subjects, must have the qualifications determined by the State board, with the approval of the Federal board, as the minimum for such qualifications in the State. Since Federal grants are to be given on the basis of teachers, it is essential that some means be established to make sure that such teachers are prepared to give the kind of education which the country demands.

SPECIAL ADDITIONAL REQUIREMENTS FOR AGRICULTURE.—In addition to the general conditions set forth above, some minimum requirements are proposed in order to hold agricultural education to practical purposes:

1. The States may use the appropriation for agricultural education either for teachers or for supervisors and directors.

2. The State or local communities, or both, must provide the necessary plant and equipment for the proper conduct of such education. The State board, with the approval of the Federal board, is to set up minimum requirements concerning such plant and equipment. The varying conditions throughout the country make it important for these minimum requirements to be flexible.

3. The commission believes that every school should be required to spend at least a reasonable sum as an evidence of its interest. Such a limitation is necessary also to prevent the dissipation of the funds in small amounts, thus failing to realize their value. Recognizing the different conditions existing in different States, discretion is again lodged with the State board, with the approval of the Federal board, to determine what is a proper minimum amount to be expended for all purposes in any school or class, and to apply the Federal fund only to such schools and classes as promise, by the efficiency and extent of their plant and equipment, to produce practical results.

4. Actual practice in agriculture is fixed as one of the minimum requirements. It is universally recognized that agriculture can not be taught in isolation from actual practice. The proposal of the commission is, therefore, that such teaching should be accompanied by directed or supervised practice in agriculture, either on the home farm or on a farm provided for by the school, for at least six months a year. This will give the schools an opportunity to conduct winter courses of agriculture and follow it up through the summer by supervising the practical work of the pupils in farming.

SPECIAL ADDITIONAL REQUIREMENTS FOR TRADE AND INDUSTRIAL EDUCATION.—In addition to the general limitations applicable to all kinds of vocational education, some conditions should be set up especially applicable to trade and industrial education in order to hold such education strictly to its vocational purpose:

1. As in the case of agriculture, the State or local community is required to furnish the necessary plant and equipment, and the State board, with the approval of the Federal board, fixes the requirements for such equipment in any given trade or industrial pursuit. The

wide variations in these pursuits make it essential that this power be lodged in somebody to establish the minimum equipment for each.

2. Likewise the amount which should be expended in any school or class should be sufficient to make certain that the work will be done effectively. Again, however, the variations in the hundreds of industries require that somebody have authority to fix the minimum amount which is deemed necessary to properly conduct education for any trade or industrial pursuit. Inflexible requirements would obviously not meet all of the conditions.

3. It is an established principle that trade and industrial education can not be given successfully by theoretical study alone, but must be accompanied by shop practice on a useful or productive basis or as nearly as may be on such a basis. The consensus of opinion is that at least half the time of pupils should be given to shop practice and that such instruction should extend over a sufficiently long period to give the amount of continuous practice necessary. The commission believes that one-half of the school time to such shop practice for not less than nine months per year is a proper minimum, below which practical industrial education should not be given.

4. To part-time schools the commission believes special stimulus should be given, for the reason that the greater social and economic need is to educate the great mass of boys and girls between 14 and 18 years of age, who have entered upon employment without adequate preparation. The undeveloped state of part-time education and the great promise which it holds for youthful workers make its encouragement highly desirable. Hence it is proposed that at least one-third of the amount appropriated to each State shall be used for part-time education only. The commission believes that 144 hours of part-time instruction during the year is the smallest amount of time, consistent with profitable instruction, which could be required of approved schools and classes.

5. In evening industrial schools a requirement is fixed that admission shall be only for persons over 16 years of age, and that the instruction shall be confined to that which is supplemental to the daily employment. Experience demonstrates that evening classes for young workers, under 16 years of age, at least, result on the whole in greater physical ill than educational advantage. The reasons for restricting the Federal aid to evening classes extending the trade knowledge of those already employed during the day, have previously been stated in this report.[1]

6. Recognizing again the wide variation in conditions as between the larger and smaller cities, discretion is left with the State board and the Federal board to modify the requirements for all-day schools as to length of courses and hours of instruction per week, in cities of less than 25,000 population.

SPECIAL ADDITIONAL REQUIREMENTS FOR THE TRAINING OF TEACHERS.—1. The most important minimum requirement in the training of vocational teachers is that they should have practical experience in, or contact with, the calling for which they give instruction. The commission believes that the success of the movement for vocational education at this time depends upon securing a body of teachers of adequate experience in agricultural and trade and industrial pursuits. Such instructors must combine knowledge of the subject and

[1] See Ch. III., p. 54.

of the proper way to present it, together with such practical knowledge of the vocation which they are teaching as to be able to relate the training to the purpose of this education, namely, to fit for useful or profitable employment.

2. The development of vocational education, particularly in trades and industries, will require many kinds of teachers to give education in the many kinds of trades and industries to be taught. Teachers for these subjects can not be prepared in a uniform manner. The amount and character of experience and preparation will necessarily vary as much as the trades and industries themselves. It is important, therefore, that the matter be left to somebody to determine the kinds of preparation needed and to supervise the training; consequently it is believed that the State board should be free to allot the fund for the preparation of teachers to such institutions or classes as they see fit. The discretion is also lodged with the State board, with the approval of the Federal board, to determine the amount of experience and contact necessary for the different kinds of vocational teachers.

ARRANGEMENT FOR ALLOTMENT OF MONEYS AND DISBURSEMENT BY THE STATE.

A working arrangement between the States and the Federal Government requires an arrangement for the allotment of moneys from the Federal Treasury to the States and its disbursement by the States to the schools and classes entitled to it. This involves, on the part of the Federal Government, the fixing of the conditions for the payment of money to the States, the times when it is to be paid, and the method of allotment. It involves, on the part of the State, the appointment of a disbursing officer, and provides for requisitions upon this officer by the State board in favor of schools and classes which have been approved for Federal aid.

The most feasible plan which respects the rights of all parties to the arrangement seems to be the one proposed by the commission. When the Federal board is satisfied that the State is using or is proposing to use the funds appropriated to it, the board is to allot to such State the amount to which it is entitled. The amount is to be certified to the Secretary of the Treasury, who is to draw his warrant quarterly in favor of the State treasurer, as the legally appointed disbursing officer for the State, who shall hold the moneys subject to the requisition of the State board. The funds received by the State would therefore be in the control of the State as soon as allotted. The State board is to distribute the money according to plans which they themselves have formulated, with the approval of the Federal board for vocational education.

If at any time any part of the fund is lost or misapplied, the State must make good the amount before further allotment is given; and if the State, after receiving the annual allotment, is unable to use any portion of it, an amount equal to such unused part is to be deducted from the next annual allotment. It thus becomes imperative upon the States to use the money or forfeit the amount unused.

Any cooperation between the National Government and the State in the support of a definite purpose, like vocational education, must in some way be based upon a condition that the national grants are expended by the States in a way agreed upon between the agents of the State and the National Governments.

As has been stated above, the Federal grants are appropriated to the States and are to be paid over to them on the requisition of the Federal board. In order, however, to make certain that the money is expended for the purposes of the grant, power is lodged with the Federal Board for Vocational Education to determine whether the States are using the moneys for the purpose intended, and if it is found that such moneys are not being used in this way, the Federal board may withhold future allotments from a State. If any annual grants are withheld from any State, the State board may appeal the matter to Congress, and if Congress does not direct that the money be paid, it shall remain in the Treasury.

Circumstances might arise where a State might wish to use national funds for one kind of vocational education and not for another; for example, a State might desire to use the appropriation for agricultural training and not the appropriation for trade and industrial training, or vice versa. The way is left open for the State to avail itself of the benefit of any one of the grants and meet the conditions of that grant without being compelled to accept and use the other grants.

The importance of the training of teachers, however, is so great as to lead the commission to believe that, after an early date, no moneys should be appropriated to a State for the salaries of teachers, supervisors, or directors of agricultural education, unless it has taken advantage of the grants for the training of teachers, supervisors, and directors of agricultural subjects and that a State should not be given the grants for salaries of teachers of trade and industrial subjects unless it has taken advantage of the fund for the training of teachers in these subjects.

The appropriation to the States which the commission has proposed for the preparation of teachers is to be used for the training of teachers in the subjects of agriculture, trade and industries, and home economics. No attempt is made to separate the appropriations for these three purposes. It is believed to be best on the whole to give the money in a lump sum to the States in proportion to their total population and leave them to use it for the preparation of the three kinds of teachers in the proportion which their needs demand. In order, however, that some of the national grant may be expended for the fitting of teachers for all three subjects, the restriction is made that not more than 60 per cent nor less than 20 per cent shall be applied to the training of any one of the three classes of teachers. This means, for example, that an agricultural State might spend 60 per cent of the money for the training of teachers of agriculture, 20 per cent for trade and industrial teachers, and 20 per cent for home economics teachers. Likewise a manufacturing State might expend 60 per cent of the money for trade and industrial teachers, 20 per cent for agricultural teachers, and 20 per cent for home economics teachers.

CHAPTER VII.

PROPOSED LEGISLATION.[1]

The commission submits a bill to meet, through national grants, the needs of vocational education. This bill contains the concrete recommendations of the commission and carries with it many details which the making and the administration of such grants involve. The propositions contained in the bill proposed in this chapter have been discussed at length in previous chapters. The following brief explanation of the bill is therefore a summary of much of the foregoing discussion, and is offered as an attempt to explain and clarify the purpose of its provisions.

Under the suggested bill grants to the States are made for instruction in agriculture, and the trades and industries, and for the training of teachers of agricultural, trade, industrial, and home economics subjects. It should be emphasized here that the term "agricultural education," as used in this report, includes education for the farm home as well as for the farm itself. Hence home economics, so far as it relates to the farm home, is included in the grant for instruction in agriculture.

APPROPRIATIONS TO THE FEDERAL BOARD FOR VOCATIONAL EDUCATION.—In addition to the proposed grants to the States, the bill provides a grant to the Federal Board for Vocational Education for the administration of the act, and for studies, investigations, and reports to aid the States in establishing and administering vocational schools. These studies cover the subjects of agriculture and home economics, trades and industries, commerce and commercial processes, and methods of teaching and courses of study for such subjects. The total amount proposed to be appropriated to the Federal board is fixed at $200,000 annually.

APPROPRIATIONS TO THE STATES FOR THE TRAINING OF TEACHERS.—The amounts proposed to be appropriated to the States to aid in the training of teachers of vocational subjects, begin at $500,000 for the fiscal year ending June 30, 1916, and increase to a maximum annual appropriation beginning with the fiscal year 1918–19 of $1,000,000. This money is distributed to the States in the proportion that their population bears to the total population of the United States, but it is stipulated that the appropriation to each State shall be not less than $5,000 for any year prior to 1919 nor less than $10,000 for any year thereafter. A special appropriation is made to provide for this minimum.[2]

The bill contemplates the training of teachers in agricultural subjects, trade and industrial subjects, and home economics subjects.

[1] It has been necessary in preceding chapters, particularly in Chapters III and VI, to discuss many of the conditions on which national grants are given to the States. These requirements are repeated in the present chapter in order to give a comprehensive statement of all the principal requirements as a condition of grants.

[2] For amounts to be distributed to each State under the bill, see Ch. V, p. 66, and Appendix L, pp. 179 and 180.

The population of the State is regarded as an equitable basis for grants for the training of teachers, since such grants cover not only agricultural and industrial subjects, but also home economics subjects.

APPROPRIATIONS TO THE STATES FOR AGRICULTURAL EDUCATION.—The total amount proposed to be appropriated under the bill for education in agriculture for the fiscal year ending June 30, 1916, is $500,000. This amount increases each year by $250,000 until 1922, and for the two following years at the rate of $500,000 per year, until the maximum of $3,000,000 is reached in 1924. Thereafter the annual appropriation will be $3,000,000. These appropriations are to be distributed to the States in the proportion that the rural population of a State bears to the total rural population in the United States, but it is stipulated that the appropriation to each State shall be not less than $5,000 for any year prior to 1922 or less than $10,000 in any year thereafter. The selection of the rural population as the basis for the distribution of this fund was made after comparing the results with those obtained upon other bases, such as the area of improved lands and population engaged in agricultural pursuits. The commission believes that agricultural education is essentially a problem of communities having less than 2,500 population, which is the census classification for rural population. The amount which each State would receive under the provisions of this bill is given in Chapter V, page 64, and in Appendix L, pages 174 to 176.

APPROPRIATIONS TO THE STATES FOR TRADE AND INDUSTRIAL EDUCATION.—The total amount proposed for education in trades and industries for the fiscal year ending June 30, 1916, is $500,000, and the amount increases, as in the case of agriculture, by $250,000 a year until 1922; thereafter for two years the increase is at the rate of $500,000 per year, until a maximum of $3,000,000 is reached in 1924. The annual appropriation then continues at $3,000,000. It is stipulated, however, that the appropriation to each State shall be not less than $5,000 for any year prior to 1922, nor less than $10,000 for any year thereafter. These sums are to be distributed to the States on the basis of the proportion which the urban population of a State bears to the total urban population of the United States. Having selected the rural population as the basis for the distribution of the grants for agricultural education, it logically follows that grants for trade and industrial education should be given on the basis of the urban population. A comparison of the figures indicated the equity of this method of distribution. The amounts which would be received by each State from the fund on this basis is given in Chapter V, page 65 of this report, and in Appendix L, pages 176 to 179.

GENERAL CONDITIONS FOR NATIONAL GRANTS.—It is intended that the appropriations made to the States shall be for the purpose of preparing practical teachers of vocational subjects and of providing practical vocational education in agriculture and in the trades and industries for persons who are engaged in or who intend to engage in such vocations. It is not intended that the money is to be used for any part of general education, and hence it is provided that "the cost of instruction supplementary to the practical and technical instruction provided for in this act necessary to build a well-rounded course of training shall be borne by the State and local community." The commission accepts the theory that general education is the function

of the State and local communities and has confined its grants to vocational education.

The bill provides that the money appropriated to the States shall be paid for salaries of teachers of trade and industrial subjects and of teachers, supervisors, or directors of agricultural subjects. For every dollar of Federal money expended for vocational instruction in approved schools, the State or local community, or both, must spend an equal amount for such instruction. The teachers for whom such appropriations are made must have the qualifications which the State sets up, with the approval of the Federal board.

All costs of maintenance, including the cost of buildings, lands, or equipment other than the salaries of teachers, are to be borne by the State and local communities.

The training of vocational teachers.—The proposed bill provides for grants to the States for the training of teachers of agricultural, trade and industrial, and home economics subjects. The State boards are to formulate a plan for the training of such teachers, suitable to the particular vocational needs of their States, which shall be subject to the approval of the Federal board. The bill requires that the training be carried out under the direction of the State board, and that the training be given "only to persons who have had adequate vocational experience or contact in the line of work in which they are preparing themselves as teachers, supervisors, or directors, or who are acquiring such experience or contact as a part of their training." The State board and the Federal board are to establish minimum requirements for such experience or contact for different kinds of vocational teachers. In placing the supervision of this training under the State board it is expected that the board will utilize any schools or classes especially designed for the purpose of giving such training.

Agricultural education.—The proposed bill attempts to limit the application of the appropriation for agricultural education in order to hold it to a distinctly vocational purpose, by setting up certain requirements deemed essential for practical vocational education in agriculture. Recognizing the great differences in the States, the commission has sought to leave to them the opportunity to use the money either in agricultural classes or schools or in supervising such education.

The controlling purpose of this education is to be to fit persons over 14 years of age for useful employment on the farm or in the farm home. It is provided that such education must be of less than college grade. Any school in order to share in the appropriation must provide for directed or supervised practice in agriculture, either on the home farm or on a farm provided for by the school. Such education must be given in schools or classes supported and controlled by the public, and teachers of such schools must have the minimum qualifications determined for the State by the State board, with the approval of the Federal Board for Vocational Education.

Trade and industrial education.—In trade and industrial education similar minimum requirements are set up by the bill in order to hold this education to its strictly vocational purpose. It is provided therefore that such education, aided by national grants, must have for its controlling purpose the preparation of persons over 14 years of age for useful employment in a trade or industrial pursuit. This education must be of less than college grade and be particularly

designed to meet the vocational needs of persons who are preparing for or who have entered a trade or industrial pursuit. Minimum conditions are provided, requiring that industrial classes or schools offering instruction to persons who have not entered upon employment shall give their students adequate practice in the trade or calling in which they are being educated. At least half the time of such instruction must be given to actual practice on a useful or productive basis either in the school shop or in a commercial shop. In the case of part-time work, where persons who have entered upon industry return to the school for supplementary instruction, it is required that such schools provide for at least 144 hours of schoolroom instruction per year. In the case of evening industrial schools it is required that the education shall be supplementary to the daily employment and that the State shall fix a minimum entrance requirement of 16 years. In this case, as in the case of education in agriculture, teachers must have the minimum qualifications set up by the State board, with the approval of the Federal board.

Recognizing the need for adequate beginnings of part-time education, the commission has provided that at least one-third of the money appropriated for the salaries of teachers of trade and industrial subjects shall be used for part-time instruction, which is to include subjects extending the civic and vocational intelligence of young workers over 14 and under 18 years of age.

State Boards of Administration.—As a condition to the receipt of the appropriation, the States are to formally, through their legislatures, accept the provisions of the act, and set up an administrative board. No restrictions are placed upon the States in the creation or designation of this board, except that it must be composed of at least three members. The State is also required to designate the State treasurer as a custodian for vocational education to have charge of the disbursement of the fund.

In the hands of the State board rests the duty of administering the funds. But the State board is required to submit its plans for using the fund to the Federal board, which will approve such plans when it finds them to be in conformity with the purposes and provisions of the act appropriating the grants. In this way the contractual relation between the State and Federal Governments is recognized and put into effect. The State, as the resident partner, conducts and supervises the business, and the Federal Government, as the nonresident partner, approves the plan of action as a condition of Federal aid.

Federal Board for Vocational Education.—The Federal Board for Vocational Education is created by the act as an ex officio board, composed of the Postmaster General, the Secretary of the Interior, the Secretary of Agriculture, the Secretary of Commerce, and the Secretary of Labor. The Commissioner of Education is to be the executive officer of the board. The board is authorized to cooperate with the State board for the promotion of vocational education, to decide whether the States are expending their appropriations in conformity with the act, and to withhold from the States the appropriations to which they are not entitled. In addition to these duties, the board is required to make studies, investigations, and reports to aid the States in establishing vocational schools and

courses. The bill provides that the board shall gather information concerning agriculture and agricultural processes and requirements upon agricultural workers; trades and industries and trade and industrial requirements upon workers and classification of industrial processes; commerce and commercial pursuits and requirements upon commercial workers; home processes and problems and requirements upon home workers; and the administration of vocational schools, methods of instruction, and courses of study. These studies are to be made with particular reference to their use in giving practical instruction in vocational subjects. The board must cooperate so far as practicable with the Department of Agriculture, Department of Commerce, Department of Labor, and the Bureau of Education in making these studies, and any part of the fund appropriated to the Federal board may be used through any department or bureau for the purpose of making any study, investigation, or report.

ADMINISTRATION OF FUNDS.—The proposed bill appropriates a fixed amount of money to each State, and if the State complies with the provisions of the act the money is allotted and paid over quarterly to the State treasurer, who is designated by the State as the custodian for vocational education. The State board distributes the money to the schools which it has approved for Federal aid. If any State is unable to use a part or all of its appropriations, an equal amount is to be withheld from the succeeding annual allotment and covered back into the Treasury of the United States. The form of procedure in getting funds under the proposed bill would therefore involve these steps: The States and local communities would establish and operate their systems of vocational education. The amounts paid to teachers of vocational subjects would then be certified to the State board. The State board would then make a requisition upon the custodian for vocational education.

The State would thus have entire supervision of the money after it has been paid into the hands of the State custodian, but if at any time any part of the fund were misapplied the Federal board could withhold an equal amount from future grants. A report is required annually from each State board concerning the administration of the act and the disbursement of the fund. If any portion of the moneys received by the State custodian for vocational education is lost or diminished, it must be replaced by the State before any subsequent appropriation is paid to such State. Where allotments of money are withheld from any State by the Federal Board for Vocational Education, the State board may appeal to Congress, and if Congress does not decide that the amount shall be paid it shall be covered into the United States Treasury.

BILL SUBMITTED BY THE COMMISSION.

The commission submits the following bill:

A BILL To provide for the promotion of vocational education; to provide for cooperation with the States in the promotion of such education in agriculture and the trades and industries; to provide for cooperation with the States in the preparation of teachers of vocational subjects; and to appropriate money and regulate its expenditure.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That there is hereby annually appropriated, out of the money in the Treasury not otherwise appropriated, the sums provided in sections two, three, and four of this act, to be paid to the respective States for the purpose of cooperating with the States in paying the salaries of teachers, supervisors, and directors of agricultural subjects, and of teachers of trade and industrial subjects, and in the prepara-

tion of teachers of agricultural, trade and industrial, and home economics subjects; and the sum provided for in section seven to the Federal Board for Vocational Education for the administration of this act and for the purpose of making studies, investigations, and reports to aid in the organization and conduct of vocational education, which sums shall be expended as hereinafter provided.

SEC. 2. That for the purpose of cooperating with the States in paying the salaries of teachers, supervisors, or directors of agricultural subjects there is hereby appropriated to the States, for the fiscal year ending June thirtieth, nineteen hundred and sixteen, the sum of $500,000; for the fiscal year ending June thirtieth, nineteen hundred and seventeen, the sum of $750,000; for the fiscal year ending June thirtieth, nineteen hundred and eighteen, the sum of $1,000,000; for the fiscal year ending June thirtieth, nineteen hundred and nineteen, the sum of $1,250,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty, the sum of $1,500,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty-one, the sum of $1,750,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty-two, the sum of $2,000,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty-three, the sum of $2,500,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty-four, and annually thereafter, the sum of $3,000,000. Said sums shall be allotted to the States in the proportion which their rural population bears to the total rural population in the United States, not including outlying possessions, according to the last preceding United States census: *Provided*, That the allotment of funds to any State shall be not less than a minimum of $5,000 for any fiscal year prior to and including the fiscal year ending June thirtieth, nineteen hundred and twenty-two, nor less than $10,000 for any fiscal year thereafter; and there is hereby appropriated the following sums, or so much thereof as may be necessary, for the purpose of providing the minimum allotment to the States provided for in this section: For the fiscal year ending June thirtieth, nineteen hundred and sixteen, the sum of $48,000; for the fiscal year ending June thirtieth, nineteen hundred and seventeen, the sum of $34,000; for the fiscal year ending June thirtieth, nineteen hundred and eighteen, the sum of $24,000; for the fiscal year ending June thirtieth, nineteen hundred and nineteen, the sum of $18,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty, the sum of $14,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty-one, the sum of $11,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty-two, the sum of $9,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty-three, the sum of $34,000; and annually thereafter the sum of $27,000.

SEC. 3. That for the purpose of cooperating with the States in paying the salaries of teachers of trade and industrial subjects, there is hereby appropriated to the States, for the fiscal year ending June thirtieth, nineteen hundred and sixteen, the sum of $500,000; for the fiscal year ending June thirtieth, nineteen hundred and seventeen, the sum of $750,000; for the fiscal year ending June thirtieth, nineteen hundred and eighteen, the sum of $1,000,000; for the fiscal year ending June thirtieth, nineteen hundred and nineteen, the sum of $1,250,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty, the sum of $1,500,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty-one, the sum of $1,750,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty-two, the sum of $2,000,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty-three, the sum of $2,500,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty-four, the sum of $3,000,000, and annually thereafter the sum of $3,000,000. Said sums shall be allotted to the States in the proportion which their urban population bears to the total urban population in the United States, not including outlying possessions, according to the last preceding United States census: *Provided*, That the allotment of funds to any State shall be not less than a minimum of $5,000 for any fiscal year prior to and including the fiscal year ending June thirtieth, nineteen hundred and twenty-two, nor less than $10,000 for any fiscal year thereafter, and there is hereby appropriated the following sums, or so much thereof as may be needed for the purpose of providing the minimum allotment to the States provided for in this section; for the fiscal year ending June thirtieth, nineteen hundred and sixteen, the sum of $66,000; for the fiscal year ending June thirtieth, nineteen hundred and seventeen, the sum of $46,000; for the fiscal year ending June thirtieth, nineteen hundred and eighteen, the sum of $34,000; for the fiscal year ending June thirtieth, nineteen hundred and nineteen, the sum of $28,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty, the sum of $25,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty-one, the sum of $22,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty-two, the sum of $19,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty-three, the sum of $56,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty-four, and annually thereafter, the sum of $50,000.

SEC. 4. That for the purpose of cooperating with the States in preparing teachers, supervisors, and directors of agricultural subjects, and teachers of trade and industrial and home economics subjects, there is hereby appropriated to the States, for the fiscal year ending June thirtieth, nineteen hundred and sixteen, the sum of $500,000; for the fiscal year ending June thirtieth, nineteen hundred and seventeen, the sum of $700,000; for the fiscal year ending June thirtieth, nineteen hundred and eighteen, the sum of $900,000; for the fiscal year ending June thirtieth, nineteen hundred and nineteen, and annually thereafter, the sum of $1,000,000. Said sums shall be allotted to the States in the proportion which their population bears to the total population of the United States, not including outlying possessions, according to the last preceding United States census: *Provided*, That the allotment of funds to any State shall be not less than a minimum of $5,000 for any fiscal year prior to and including the fiscal year ending June thirtieth, nineteen hundred and eighteen, nor less than $10,000 for any fiscal year thereafter. And there is hereby appropriated the following sums or so much thereof as may be needed, for the purpose of providing the minimum allotment provided for in this section: For the fiscal year ending June thirtieth, nineteen hundred and sixteen, the sum of $46,000; for the fiscal year ending June thirtieth, nineteen hundred and seventeen, the sum of $32,000; for the fiscal year ending June thirtieth, nineteen hundred and eighteen, the sum of $24,000; for the fiscal year ending June thirtieth, nineteen hundred and nineteen, and annually thereafter, the sum of $90,000.

SEC. 5. That in order to secure the benefits of the appropriations provided for in sections two, three, and four of this act, any State shall, through the legislative authority thereof, accept the provisions of this act and designate or create a State board, consisting of not less than three members and having all necessary power to cooperate, as herein provided, with the Federal Board for Vocational Education, in the administration of the provisions of this act. The State board of education or other board having charge of the administration of public education in the State, or any State board having charge of the administration of any kind of vocational education in the State, may, if the State so elect, be designated as the State board for the purposes of this act.

Any State may accept the benefits of any one or more of the respective funds herein appropriated and it may defer the acceptance of the benefits of any one or more of such funds and shall be required to meet only the conditions relative to the fund or funds the benefits of which it has accepted: *Provided*, That after June thirtieth, nineteen hundred and seventeen, no State shall receive any appropriation for salaries of teachers, supervisors, or directors of agricultural subjects, unless it shall have taken advantage of at least the minimum amount appropriated for the training of teachers, supervisors, or directors of agricultural subjects, as provided for in this act, and that after said date no State shall receive any appropriation for the salaries of teachers of trade and industrial subjects unless it shall have taken advantage of at least the minimum amount appropriated for the training of teachers of trade and industrial subjects as provided for in this act.

SEC. 6. That a Federal Board for Vocational Education is hereby created, to consist of the Postmaster General, the Secretary of the Interior, the Secretary of Agriculture, the Secretary of Commerce, and the Secretary of Labor. The board shall organize and elect one of its members as chairman. The board shall have power to cooperate with State boards in carrying out the provisions of this act. It shall be the duty of the Federal Board for Vocational Education to make or cause to have made studies, investigations, and reports, with particular reference to their use in aiding the States in the establishment of vocational schools and classes and in giving instruction in agriculture, trades and industries, commerce and commercial pursuits, and home economics. Such studies, investigations, and reports shall include agriculture and agricultural processes and requirements upon agricultural workers; trades, industries, and apprenticeships, trade and industrial requirements upon industrial workers, and classification of industrial processes and pursuits; commerce and commercial pursuits and requirements upon commercial workers; home processes and problems and requirements upon home workers; and problems of administration of vocational schools and of courses of study and instruction in vocational subjects.

Such studies, investigations, and reports concerning agriculture, for the purposes of agricultural education, shall, so far as practicable, be made in cooperation with or through the Department of Agriculture; such studies, investigations, and reports concerning trades and industries, for the purposes of trade and industrial education, shall, so far as practicable, be made in cooperation with or through the Department of Labor; such studies, investigations, and reports concerning commerce and commercial pursuits, for the purposes of commercial education, shall, so far as practicable, be made in cooperation with or through the Department of Commerce; such studies, investigations, and reports concerning the administration of vocational schools,

courses of study, and instruction in vocational subjects shall, so far as practicable, be made in cooperation with or through the Bureau of Education.

The Commissioner of Education shall be the executive officer of the board. He may make such recommendations to the board relative to the administration of this act as he may from time to time deem advisable. It shall be the duty of the Commissioner of Education to carry out the rules, regulations, and decisions which the board may adopt. The Federal Board for Vocational Education shall have power to employ such assistants as may be necessary to carry out the provisions of this act.

SEC. 7. That there is hereby appropriated to the Federal Board for Vocational Education the sum of $200,000 annually, to be available from and after the passage of this act, for the purpose of making or cooperating in making the studies, investigations, and reports provided for in section six of this act, and for the purpose of paying the salaries of assistants and such office and other expenses as the board may deem necessary to the execution and administration of this act. The Federal Board for Vocational Education may allot any part of said appropriation to any United States department or bureau for the purpose of making any study or investigation, or part thereof, under the provisions of this act.

SEC. 8. That in order to secure the benefits of the appropriations for any purpose specified in this act, the State board shall prepare plans, showing the kinds of vocational education for which it is proposed that the appropriation shall be used; the kinds of schools and equipment; courses of study; methods of instruction; qualifications of teachers; and, in the case of agricultural subjects, the qualifications of supervisors or directors; plans for the training of teachers; and, in the case of agricultural subjects, plans for the supervision of agricultural education as provided for in section ten. Such plans shall be submitted by the State board to the Federal Board for Vocational Education and if the Federal board finds the same to be in conformity with the provisions and purposes of this act, the same shall be approved. The State board shall make an annual report to the Federal Board for Vocational Education, on or before September first of each year, on the work done in the State and the receipts and expenditures of money under the provisions of this act.

SEC. 9. That the appropriation for the salaries of teachers, supervisors, or directors of agricultural subjects and of teachers of trade and industrial subjects shall be devoted exclusively to the payment of salaries of such teachers, supervisors, or directors having the minimum qualifications set up for the State by the State board, with the approval of the Federal Board for Vocational Education. The cost of instruction supplementary to the instruction in agricultural and in trade and industrial subjects provided for in this act, necessary to build a well-rounded course of training, shall be borne by the State and local communities, and no part of the cost thereof shall be borne out of the appropriations herein made. The moneys expended under the provisions of this act, in cooperation with the States, for the salaries of teachers, supervisors, or directors of agricultural subjects or for the salaries of teachers of trade and industrial subjects, shall be conditioned that for each dollar of Federal money expended for such salaries the State or local community, or both, shall expend an equal amount for such salaries; and that appropriations for the training of teachers of vocational subjects as herein provided, shall be conditioned that such money be expended for maintenance of such training and that for each dollar of Federal money so expended for maintenance, the State or local community, or both, shall expend an equal amount for the maintenance of such training.

SEC. 10. That any State may use the appropriation or any part thereof allotted to it, under the provisions of this act, for the salaries of teachers, supervisors, or directors of agricultural subjects, either for the salaries of teachers of such subjects in schools or classes, or for the salaries of supervisors or directors of such subjects under a plan of supervision for the State to be set up by the State board, with the approval of the Federal Board for Vocational Education. That in order to receive the benefits of such appropriation for the salaries of teachers, supervisors or directors of agricultural subjects, the State board of any State shall provide in its plan for agricultural education that such education shall be that which is supported and controlled by the public; that the controlling purpose of such education shall be to fit for useful employment; that such education shall be of less than college grade and be designed to meet the needs of persons over fourteen years of age, who have entered upon or who are preparing to enter upon, the work of the farm or of the farm home; that the State or local community, or both, shall provide the necessary plant and equipment determined upon by the State board with the approval of the Federal Board for Vocational Education as the minimum requirement for such education in schools and classes in the State; that the amount expended for the maintenance of such education in any school or class receiving the benefit of such appropriation shall be not less annually than the amount fixed by the State board, with the approval of the Federal board, as

the minimum for such schools or classes in the State; that such schools shall provide for directed or supervised practice in agriculture either on a farm provided for by the school or other farm, for at least six months per year; that the teachers, supervisors, or directors of agricultural subjects shall have at least the minimum qualifications determined for the State by the State board with the approval of the Federal Board for Vocational Education.

SEC. 11. That in order to receive the benefits of the appropriation for the salaries of teachers of trade and industrial subjects, the State board of any State shall provide in its plan for trade and industrial education that such education shall be given in schools or classes supported and controlled by the public; that the controlling purpose of such education shall be to fit for useful employment, that such education shall be of less than college grade and shall be designed to meet the needs of persons over fourteen years of age who are preparing for a trade or industrial pursuit or who have entered upon the work of a trade or industrial pursuit; that the State or local community, or both, shall provide the necessary plant and equipment determined upon by the State board with the approval of the Federal Board for Vocational Education, as the minimum requirement in such State for education for any given trade or industrial pursuit; that the total amount expended for the maintenance of such education in any school or class receiving the benefit of such appropriation shall be not less annually than the amount fixed by the State board, with the approval of the Federal board, as the minimum for such schools or classes in the State; that such schools or classes giving instruction to persons who have not entered upon employment shall require that at least half of the time of such instruction be given to practical work on a useful or productive basis, such instruction to extend over not less than nine months per year and not less than thirty hours per week; that at least one-third of the sum appropriated to any State for the salaries of teachers of trade and industrial subjects shall, if expended, be applied to part-time schools or classes for young workers over fourteen years of age who have enterd upon employment, and such subjects in a part-time school or class may mean any subject given to enlarge the civic or vocational intelligence of such workers over fourteen and less than eighteen years of age; that such part-time schools or classes shall provide for not less than one hundred and forty-four hours of class-room instruction per year; that evening industrial schools shall fix the age of sixteen years as a minimum entrance requirement and shall confine instruction to that which is supplemental to the daily employment; that the teachers of any trade or industrial subject in any State shall have at least the minimum qualifications for teachers of such subjects determined upon for such State by the State board with the approval of the Federal Board for Vocational Education: *Provided*, That for cities and towns of less than twenty-five thousand population, according to the last preceding United States Census, the State board, with the approval of the Federal Board for Vocational Education, may modify the conditions as to the length of course and hours of instruction per week for schools and classes giving instruction to those who have not entered upon employment, in order to meet the particular needs of such cities and towns.

SEC. 12. That in order to receive the benefits of the appropriation in this act for the training of teachers, supervisors, or directors of agricultural subjects, or of teachers of trade and industrial or home economics subjects, the State board of any State shall provide in its plan for such training that the same shall be carried out under the supervision of the State board; that such training shall be given in schools or classes supported and controlled by the public; that such training shall be given only to persons who have had adequate vocational experience or contact in the line of work for which they are preparing themselves as teachers, supervisors, or directors, or who are acquiring such experience or contact as a part of their training and that the State board, with the approval of the Federal board, shall establish minimum requirements for such experience or contact for teachers, supervisors, or directors of agricultural subjects and for teachers of trade and industrial and home economics subjects; that no more than 60 per centum nor less than 20 per centum of the money appropriated under this act for the training of teachers of vocational subjects to any State for any year shall be expended in the preparation of teachers, supervisors, or directors of agricultural subjects, or of teachers of trade and industrial subjects, or of teachers of home economics subjects.

SEC. 13. That in order to secure the benefits of the appropriations for the salaries of teachers, supervisors, and directors of agricultural subjects, or for the salaries of teachers of trade and industrial subjects, or for the training of teachers as herein provided, any State shall, through the legislative authority thereof, appoint the State treasurer as custodian for vocational education, who shall receive and provide for the proper custody and disbursement of moneys paid to the State from said appropriations.

SEC. 14. That the Federal Board for Vocational Education shall annually ascertain whether the States are using or are prepared to use the moneys received by them in accordance with the provisions of this act. On or before the first day of January of each year the Federal Board for Vocational Education shall certify to the Secretary of the Treasury as to each State which has accepted the provisions of this act and complied therewith, certifying the amounts which each State is entitled to receive under the provisions of this act. Upon such certification the Secretary of the Treasury shall pay quarterly to the custodian for vocational education of each State the moneys to which it is entitled under the provisions of this act. The moneys so received by the custodian for vocational education for any State shall be paid out on the requisition of the State board, as reimbursement for expenditures already incurred, to such schools as are approved by said State board and are entitled to receive such moneys under the provisions of this act.

SEC. 15. That whenever any portion of the fund annually allotted to any State has not been expended for the purpose provided for in this act, a sum equal to such portion shall be deducted by the Federal board from the next succeeding annual allotment from such fund to such State.

SEC. 16. The Federal Board for Vocational Education may withhold the allotment of moneys to any State whenever it shall appear that such moneys are not being expended for the purposes and under the conditions of this act. If any allotment is withheld from any State, the State board of such State may appeal to the Congress of the United States, and if the Congress shall not direct such sum to be paid it shall be covered into the Treasury.

SEC. 17. That if any portion of the moneys received by the custodian for vocational education of any State under this act, for any given purpose named in this act, shall by any action or contingency be diminished or lost, it shall be replaced by such State, and until so replaced no subsequent appropriation for such education shall be paid to such State. No portion of any moneys appropriated under this act for the benefit of the States shall be applied, directly or indirectly, to the purchase, erection, preservation, or repair of any building or buildings or equipment, or for the purchase or rental of lands.

SEC. 18. That the Federal Board for Vocational Education shall make an annual report to Congress, on or before December first, on the administration of this act and shall include in such report the reports made by the State boards on the administration of this act by each State and the expenditure of the money allotted to each State.

APPENDIX A.

VOCATIONAL EDUCATION IN GERMANY.

Vocational education in Germany undertakes to meet the requirements of every occupation, however simple, in so far as these have been accurately determined and to give precisely that instruction and training which will develop in the worker the greatest efficiency. The vocational schools of Germany are, therefore, almost as diverse in character as are the occupations of her workers, and this very diversity in character renders any detailed account of them impossible in a brief statement. The object has been not simply to develop a national system of education, but rather to provide in each locality and for each group of workers, schools adapted to the special needs of the locality and occupations of the workers. The following brief summary account of these schools is largely condensed from Mr. Edwin G. Cooley's account of them in his report to the Commercial Club of Chicago on vocational education in Europe.

FINANCIAL SUPPORT.—The vocational schools of Germany, including under this term the lower and higher technical and technological industrial schools and the commercial schools, may be classified as (1) State institutions supported entirely by the State; (2) State institutions supported in part by contributions of private corporations; (3) local community institutions supported entirely by the local government; (4) local community institutions to the support of which the State or local organizations contribute; (5) institutions supported by associations or unions, not conducted for profit and financially assisted both by the State and the city; (6) private institutions, conducted for profit, to the support of which municipalities contribute, mainly in the way of providing school buildings. The following statement may be quoted as indicating in general the apportionment of the cost of maintaining these schools:

"It often happens that great industrial or school associations organized locally for the purpose will undertake the entire support of an institution, or at least the principal part of the cost, but for the most part the choice lies between the two great governmental agencies—the State and the local community. The participation of both agencies in this field of education has grown considerably in the last 20 years. The division of the problem between them is not carried out uniformly. In general, it may be said that the individual cities have their own school organizations, and that schools are established by the State to serve larger districts. No doubt the city also derives much advantage from the opportunity of sending its students of middle and higher school grades to the district institution, and to this extent it is fair to call upon the city for some part of the initial cost of founding the school, or for regular contributions to the expense of maintenance. On the other hand, the State is not without interest in the success of technical schools of a local character, not only because in this way the State is relieved of the necessity of providing for the training of the many lower technical officials (overseers and foremen) who are required in its own service, but because every increase in local industrial capacity results in an advantage to the whole State; for example, in an increased ability to pay taxes. Accordingly, some participation by the State in the support of technical schools that are primarily local can be justified, not merely in the case of communities incapable of assuming the burden, but also as a matter of general policy."[1]

THE INDUSTRIAL SCHOOLS.—The system of vocational industrial schools embraces the following general types of institutions:

1. The technical universities, which are similar to our best technological colleges and are intended to train students for leadership in industrial enterprises.

2. The middle technical schools which "aim to train managing officers for the greater industries, and persons who initiate and manage the lesser industrial undertakings." In the case of some of these schools, in addition to a general education, from one to two years' practical experience is required as a condition of admission. The length of the course is commonly two or three years, and covers a part of the requirements for admission to the technical colleges.

[1] Vocational Education in Europe, by Edwin G. Cooley, pp. 43-44.

3. The lower technical schools. The requirements for admission to these schools are briefly summed up as follows:

(a) A preliminary general education such as is given in a good elementary school.

(b) The training given in the continuation schools or the preparatory course of the technical schools.

(c) Several years' practical experience in a trade and generally the completion of apprenticeship.

4. The industrial continuation schools. The requirement for admission to these schools is completion of the elementary school course. The instruction in these schools commonly does not occupy more than 8 or 10 hours a week, in the evening on week days and on Sunday afternoons, and is intended to "give all the workers in the industries and handicrafts, whether apprentices or journeymen, an opportunity to acquire, without giving up their practical work in the shop, a knowledge and skill in drawing, which is absolutely necessary for efficiency in their occupations." In the case of students who make satisfactory progress during several years in the continuation schools, the preparation given may be accepted by fulfilling the requirements for admission to the lower technical schools.

"By local statutes employers are compelled to grant the necessary time to their workers under 18 years of age to attend the continuation schools; and if need be, the public authorities must fix this time. Where attendance is not compulsory, but the youthful worker attends the continuation school on his own account, his employer must still allow the necessary time from the hours of employment. If the youthful worker is an apprentice, his master must make provision for his attendance at the continuation or technical school, and must see to it that he attends." [1]

In some respects the most significant feature of the German system of industrial education is found in the systematic effort, through the continuation schools and other agencies, to rehabilitate and vitalize the apprenticeship system and to provide for the continued development of the boy during his period of apprenticeship. The school retains for several years its hold upon the boy who has entered the factory or shop and provides for him an open way for improvement in efficiency. It thus tends to counteract the specialization and routine of the workshop which, in the words attributed to M. Greard, director of the Paris Academy, "wears out his body before nature has completed its development in form and power; blunts the intelligence which the school has tried to awaken; shrivels up his heart and imagination, and destroys his spirit of work." The German system provides industrial, commercial, and agricultural continuation schools.

In general, the types of schools described above are found more or less clearly differentiated, in the field of mining and industrial production, covering the mechanical, the chemical, and the building trades, the art trades, and handicrafts. Recently the technical training of women in industrial and commercial pursuits and in domestic economy has been undertaken.

The control of these schools is commonly entrusted to the ministries of commerce and industry, or to commissions representing these ministries, and the ministry of education.

Commercial Technical Education.—The differentiation of the commercial technical schools is less well defined than it is in the case of the industrial schools, and the development of the commercial schools has come at a later date. There are, however, excellent advanced commercial schools for the thorough training of business managers. The courses of study cover national economics, commercial law, foreign languages, commercial geography, and accounting. The middle and lower commercial technical schools and the commercial continuation schools, which give instruction of a lower grade, vary greatly in character and efficiency, but in general render the services with reference to training for commercial pursuits which is rendered by industrial schools of corresponding grade for industrial pursuits.

Results of Vocational Training.—Relatively to other countries the only conditions more favorable in Germany to industrial and commercial develpment in 1871, were a greater poverty of her people, less abundant natural resources, and a greater necessity of providing at home for the employment and maintenance of a rapidly increasing population. France, with a richer soil, had not the stimulus of an increasing population, and England, with abundant supplies of coal and iron available for domestic manufactures, possessed in her colonial empire an outlet for her surplus population. While, however, other European peoples whose necessities and poverty were equally as great as were those of Germany have not found in their necessities a stimulus to economic advancement, Germany has risen, within the lifetime of the present generation, from a position of commercial and industrial insignificance to a

[1] Vocational Education in Europe, by Edwin G. Cooley, p. 46.

position of dominance in the markets of the world, largely as a direct consequence of the work of her vocational, technical, and technological schools.

At the close of the Franco-Prussian War in 1871, not only were Germany's manufactures and commerce relatively insignificant and poorly conditioned, but the habits and occupations of her people were domestic and agricultural. Her natural resources and the economic capacity of her people, who had given no evidence of possessing any peculiar genius for industrial activities, seemed inadequate to provide for an increasing population. Under these conditions the individual genius of Bismarck, through direction of the ministry of commerce and industry, undertook the achievement of economic prosperity, and in this work he relied principally upon the institution and development of a system of practical education which should embrace the entire working population of Germany.

In the four decades which measure the period of her rise as an industrial and commercial nation, Germany has demonstrated that nations which depend upon convention, established prestige, or superior natural resources, can not compete successfully against a nation which systematically develops the intelligence and efficiency of her laborers, and regards the farm, the shop, and the factory as laboratories for the application of science to economic processes. "It can not be doubted," declares a recent writer, "that under equal conditions the competition of German manufactured goods with English manufactured goods would be impossible anywhere outside of Germany, owing to the unfavorable geographical position of Germany's coal fields and industrial centers. Germany is competing largely on account of her system of industrial education."

While in other countries the development of science has been academic, in Germany every new principle elaborated by science has revolutionized some industry, modified some manufacturing process, or opened up an entirely new field of commercial exploitation. In the chemical industries of Germany, it is stated that there is one university trained chemist for every 40 work people. It is important to realize that the development of Germany's manufactures and commerce has depended not upon the establishment of any monopoly in the domain of science, nor upon any advancement of science within her boundaries more aggressive and rapid than that which has taken place in other countries, but primarily upon the practical utilization of the results of scientific research in Germany and in other countries. In this whole process of bringing science into practice industrial education is an important factor.

The following statistics relating to the Prussian industrial and commercial continuation schools indicate the rapid development of these schools and the large number of pupils enrolled:[1]

NUMBER OF SCHOOLS.

Year.	Industrial schools.			Commercial schools.			Guild and union schools.
	With compulsory attendance.	Without compulsory attendance.	Total.	With compulsory attendance.	Without compulsory attendance.	Total.	
1904	1,183	107	1,290	221	69	290	428
1905	1,301	94	1,395	254	62	316	423
1906	1,450	85	1,535	276	58	334	409
1907	1,537	74	1,611	299	58	357	408
1908	1,651	68	1,719	327	54	381	402

NUMBER OF PUPILS.

1904	174,494	27,222	201,716	22,603	9,067	31,670	28,043
1905	202,669	23,905	226,574	28,108	8,826	36,934	28,124
1906	240,951	20,390	261,341	31,194	8,637	39,831	23,728
1907	265,979	18,588	284,567	36,021	7,563	43,584	24,351
1908	286,822	17,659	304,481	39,540	8,191	47,731	22,168

[1] From Vocational Education in Europe, by Edwin G. Cooley, pp. 113-117.

The 402 schools of guilds and unions which existed on the 1st of December, 1908, are distributed among the organizations as follows:[1]

	Schools.
Barbers and hairdressers	92
Blacksmiths, locksmiths, carriage makers	61
Painters and varnishers	44
Bakers and confectioners	18
Stonecutters and building-trades men	14
Butchers	8
Saddlers and upholsterers	7
Shoemakers and carpenters	5
Chimney sweeps	4
Coopers, bookbinders, glaziers, each	3
Book printers, wood and metal hand workers, tinners, tailors, potters, watchmakers, each	2
Turners, hotel keepers, basket makers, stonemasons, each	1

The united free handicraft guilds and the mixed guilds support about 38 schools.

Those continuation schools are to be counted as industrial continuation schools which are organized by the owners of great industries for their youthful workers, and bear, according to the direction of the ministry, the descriptive term "Werkschulen." On the 18th of December, 1908, 54 such schools, with 57,141 pupils, existed in Prussia.

Sources of revenue: 1909.

Kinds of schools.	Entire cost.		Tuition fees.		Amount contributed by unions, guilds, commercial associations, districts, etc.		Local tax.		State grant.	
	Marks.	*P. ct.*	*Marks.*	*P. ct.*	*Marks.*	*P. ct.*	*Marks.*	*P. ct.*	*Marks.*	*P. ct.*
Industrial continuation schools	7,309,300	100	636,104	9	159,520	2	3,732,307	51	2,781,369	38
Commercial continuation schools	1,452,884	100	778,704	54	190,228	13	245,050	17	238,902	16

[1] Figures are given as shown in work cited on preceding page.

APPENDIX B.

VOCATIONAL TRAINING REQUIRED TO MAKE OUR AGRICULTURE PERMANENTLY PRODUCTIVE AND INCREASINGLY PROFITABLE.

Unscientific agriculture can not be profitable except on a virgin soil under conditions which permit of extensive culture. These conditions have prevailed in the United States but they no longer obtain. Our agriculture must, to provide for an increasing population, become each year more intensive, and to be profitable must become each year more scientific.

It is essential that farming shall be profitable since "No business can hold the respect and service of men of ability unless it affords them a reasonable reward for what they put into it, and certainly no occupation can commend itself to ambitious young men unless it affords promise of a good and reliable income."[1] To-day farming, as it is conducted, is less profitable than other occupations, and this is due primarily to the fact that the farmer, whose work each year requires a higher grade of specialized intelligence, has, nevertheless, continued to practice primitive methods.

Indirect evidence of the relative unprofitableness of farming is found in the decrease of population over extensive areas of our agricultural States. During the decade 1900 to 1910, according to the United States census, population decreased in 769 counties or combinations of counties, which embraced an aggregate area of 472,462 square miles, or of approximately one-sixth of the total land area of the country. In 327 other counties the increase amounted to less than 5 per cent and in 561 counties it was only from 5 to 15 per cent. Thus, in 1,657 out of a total of 2,841 county areas, population in each case either decreased or increased at a rate markedly below the average rate (21 per cent) for the population of the country as a whole. These areas of decreasing population or of slow increase are rural districts. In the State of Iowa the county areas within which population decreased aggregated 38,929 square miles, or 70 per cent of the total area of the State; in Missouri the decreasing area amounted to 42,937 square miles, or 62.5 per cent; in Ohio to 43.5 per cent; and in 10 other States population decreased over more than one-fourth of the total area. During the decade specified our urban population increased by 11,013,738, or 34.8 per cent; the increase of our rural population amounted to 4,963,953, or only 11.2 per cent.

Making all due allowance for the hypnotic influence exerted by our large urban centers, this migration cityward means that the youth of our rural districts have found agriculture unprofitable. The commission believes that it is of vital importance that our rural population be kept on the land and that the youth can be retained on the farms only in proportion as farming can be made equally as profitable as employment in our crowded industrial centers. The commission believes further that the promise of profit in scientific farming is amply sufficient to stop the rush to the cities.

As indicative of the immense possibilities of profit for our farmers and of continued improvement in the economic well-being of our increasing population—to be derived solely by the application of scientific methods in the practice of agriculture, and by making our farmers trained experts in their occupation—the following statement by one of the scientific staff of our Federal Bureau of Soils in the Department of Agriculture may be quoted.

"It is an interesting fact, worthy of the most serious consideration of the scientific investigator and the practical layman, that we have no definite idea as to the limit of productivity of which soils are capable. Under greenhouse and laboratory conditions yields can be obtained enormously higher than are actually gotten in the field. * * * But more than that, the yields obtained from artificial cultures, so far from showing what the maximum possibilities are, should rather be regarded as indicating the inferior limit allowable in actual practice. This view may seem revolutionary to some, and it would be, if we are to look forward to an indefinite continuance of farming by present methods."[2]

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[1] Education for Efficiency, Davenport.

[2] Frank K. Cameron, in charge of Physical and Chemical investigations, Bureau of Soils of the United States Department of Agriculture. Paper included in the Thirteenth Report of the Michigan Academy of Science, 1911, pp. 59-60.

If the possibilities of increased profit are not a sufficient inducement to undertake the training of our farmers, certainly in the immediate future the exigencies of an increasing population will force upon our public authorities the responsibility for making our agriculture adequate.

It is the duty of society to-day to regard the welfare of the next generation of workers, who constitute our present school population, not only by conserving our natural resources, of which the fertility of our soil is the most important, but also by training these workers for the difficult task of making our soil yield each year, without impairment, an increasing food supply. If population continues to increase at its present rate, this Government will, well within the lifetime of youth now entering the ranks of labor, be responsible for the welfare of 200,000,000 souls, and before the dawn of the twenty-first century—that is to say, within the lifetime of children now entering our schools—for the welfare of no less than 450,000,000.[1] It is vitally essential that restorative and permanent systems of soil culture be established in general practice before the people are in distress for the bare necessities of life.

A stationary state of efficiency means a relatively decreasing food supply. The careless agriculture now carried on in the United States can not support an increasing population except on a constantly declining standard of living. Every million added to our population increases the difficulty of maintaining our present standard, and requires an offsetting increment of skill. One who considers the condition confronting our own children can not doubt that we should begin now on a large scale the task of educating the farming population to that degree of efficiency as purveyors of the Nation's food supply, which an increasing population demands. This duty we can not discharge properly except by a system of agricultural education which will deal not only with extension work for the mature farmer but will also, through the schools, prepare the youth in the right theory and practice of farm work.

The pressure of population upon our food resources will be not only an increasing but an enduring and permanent one and must be met by a permanent agriculture. European nations have succeeded in establishing a permanent agriculture upon a high level of productivity, but even European nations are dependent upon foreign-grown food supplies. In the past races have not known how to feed themselves except at the expense of the fertility of their own soil or that of some other country. History records the decline of nations which have failed to maintain their soil fertility, and history will certainly repeat itself in the United States unless we, and not posterity, succeed in inaugurating now a system of agricultural training that is nation wide, which shall achieve a permanent and highly productive agriculture. While the difficulty of achieving this condition of economic well-being may well occasion serious concern, we have not the excuse of ignorance. Science has taught us how to restore and maintain the fertility of our soil and the difficulty of applying scientific principles should only act as a stimulus strengthening our resolve to take immediate action. An adequate and profitable agriculture can be achieved by applying on the farm the principles which modern science has already demonstrated in the laboratory.

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[1] If this increase in population seems improbable, it may be observed that an increase from 7,239,881 in 1810 to 91,972,266 in 1910, must have seemed improbable in 1814.

"The world has not yet learned to feed such a population as is just ahead and before the present century is ended the largest single public issue will be that of bread. * * *" (Education for Efficiency, Davenport.)

APPENDIX C.

INCREASED WAGE-EARNING POWER RESULTING FROM VOCATIONAL TRAINING.

An examination of the records of 839 graduates of the Baron de Hirsch Trade School, located in New York City, showed that these young men, at an average age of 17½ years, had their wage-earning capacity increased 23 per cent directly as the first immediate consequence of a five and one-half months' trade-school day course of vocational training.[1]

Working at the only occupation open to them before entering the school, and working with little or no hope of advancement in any occupation, these mature young men were able to earn on the average only $6 per week. Five and one-half months later, immediately upon graduation from an elementary course of school training for a trade, these same 839 young men were able to earn on the average of $7.38 per week. The immediate increase in wages for this group of graduates thus amounted to $1.38 per week, which is equivalent to an average increase of $71.76 in annual wages.

Such an increase in rate of wages realized immediately upon graduation, if continued for one year would amply cover the cost to the community of providing a few months of simple elementary school training for a trade, and leave a wide margin of clear profit, to which must be added, in order to determine the real economic gain to the wage earner and to the community, the increase in earnings during the 35 or 40 years, which may be taken as constituting for the artisan the average period of economic productivity.

Included in the group of 839 graduates considered above were 158 machinists, who had increased their average wages immediately and directly in consequence of a five and one-half months' school course from $6.66, the average of their wages immediately before entering the school, to $8.96, the wages earned immediately upon graduation. The increase in average wages per week for this group amounted to $2.30, which is equivalent approximately to an increase in average annual wages of $120. A group of 66 carpenters had increased their wages from an average of $6.14 to $9.01—an increase of $2.87 per week, or by approximately $150 a year.

These increases in wages are the first effects of a brief school training in the elements of a trade, and do not at all take into account the essentially much more important benefit derived from this training, namely, emergence from the crowded ranks of casual unskilled labor, into the ranks of skilled labor in which economic advancement according to individual capacity becomes possible. In the report of the Baron de Hirsch School the statement is made that the majority of the young men who come to the school may aptly be called "drifters"—boys who "have left school as soon as the law permits them to go to work—that is, at the age of 14, to find employment in various unskilled occupations." Less than six months of vocational school work converts these drifters into advanced apprentices equipped with the elements of a skilled craft.

An investigation of the records of graduates from four classes of the Baron de Hirsch School developed the fact that (1) average wages of graduates who were working at the trade learned in the school in the case of every class exceeded the average wages of graduates working in a trade other than that in which they had received their school training; (2) that average wages of those working at trades other than the trade in which they had received their school training tended to remain relatively fixed, while wages of graduates working at the trade for which they had received school training increased, the difference in average wages of these two groups of graduates being greater the longer the time elapsed since graduation; (3) that the increase in average wages over average wages received by graduates immediately upon graduation amounted in the case of those who had been out of the school one year to 21 per cent; in the case of those who had been out of the school 18 months to 44 per cent; and in the case of those who had been out of the school two years to 74 per cent.

This means that chiefly as a result of five and one-half months of systematic vocational training young men 17 years of age, described as drifters, who were earning before entering the school an average wage of $6 with no prospect of advance in wages, were enabled to earn within two years from graduation on the average more than $12 a week, an increase of more than $300 in average annual wages secured within a period of two and one-half years.

[1] The data relating to the Baron de Hirsch Trade School is taken from the twenty-fifth report of the superintendent.

It should be borne in mind that these results are achieved in many cases under difficult conditions, as regards home environment, time available for study, and accessibility of the school to the home in a great city, and that the course of study occupies only a few months.

As another specific illustration of the economic value of vocational school training, measured by increased wage-earning capacity, the data relating to the part-time school of Beverly, Mass., may be cited.[1]

This school was opened on August 2, 1909, for the instruction of youth 14 to 21 years of age, in the machinists' or other industrial trades. Candidates must be physically fit for factory work, must have entered the seventh grade in the public schools or done equivalent work, and must have such a character as would assure retention in the regular schools.

Boys admitted to the school work in alternate weeks in a factory receiving, in the course of a school year of 50 weeks, 25 weeks of instruction in the factory and 25 weeks of instruction in the school. In the factory 50 hours, in the school 30 hours, constitute a week's work. The boys are divided into two divisions, A and B, and while A is in the factory B is in the school for a week. Each division has an instructor, who remains with his division in the school and in the factory "as a coordinator of shop and schoolroom work." A shop instructor, who remains at the factory, "comes into teaching contact with both divisions, and thus is a valuable factor in unifying the work."

No textbooks are used, the schoolroom instruction in arithmetic, English, mechanical drawing, freehand sketching, geometry, algebra, trigonometry, science, mechanic study, and other branches being based entirely upon the experience in the factory. Common screw threads, spiral gears, machinists' practice, and angles on blue prints, for example, provide the material basis for instruction in algebra, geometry, and trigonometry. "Topics are taught only as they can be assimilated and grow out of the daily experiences."[2] In the factory actual shop conditions prevail. The boys are at work on commercial products, which must pass the factory inspector precisely as must the product of other workmen. It is the boast of the school that there is no simulation of a factory, no work given out simply as an exercise. On the contrary the boys are wage earners in the shops of the United Shoe Machinery Co., and the work is that of building shoe machinery.

The term of instruction under this part-time organization is not definitely fixed, but occupies approximately three years. When the boy has become proficient in the trade he is promoted to full-time in the factory. As a full-time factory operative, however, he remains for a period which may be counted as equivalent to a fourth year in the course, under the direction of the school, and may at any time be put back on half-time.

What are the immediate and tangible economic results of this training?

The average wage-earning power of the boys who come to the school is $6 per week. The wages earned by the first class of students in the school to be graduated to full time in the factory—earned, that is to say, by full-time students who were still on the school roll and subject to school authority—averaged $15.65 per week, the wage earned by individual boys ranging from $15 to $18 per week.

In 120 weeks of shop work under school direction the boys increased their average earning power in competition with other workmen and under actual factory conditions by more than 250 per cent, and were, in fact, earning at the close of the period wages at the rate of $800 a year.

Of these first graduates the director observed that "had it been possible for them to remain in the grade schools they would not yet have graduated from the high school." And it may be submitted that not only the economic value of the education received by these boys, but also the cultural value, measured in terms of ability to live useful and happy lives as citizens of a democracy, is greater than that which would have been conferred upon them by the conventional high school course. They have been given a cultural interest in and comprehension of their bread-winning occupation.

The Beverly industrial school has achieved an ideal of vocational education, in that it has projected the school into the factory and has, in the true sense of the word, graduated the boy into his life work, fully equipped and trained for productive labor. The boy has been graduated, not ejected from the school.

Under this system the boy is not abandoned by the school at precisely that period when he must face the most difficult and serious problem of his life, that of choosing and learning a vocation and of establishing himself as a productive laborer.

Judged by the experience of the Beverly school, what has been the actual cost to the community of achieving this ideal of democratic education?

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[1] The data relating to the Industrial School of the city of Beverly, Mass., is taken from the fourth annual report of the trustees, 1912.

[2] Fourth annual report of the trustees, p. 9.

The actual cost of providing this sort of instruction certainly does not exceed the cost of instruction in a high school, and if the children of parents who are economically well conditioned are given high school instruction free, there would seem to be no just reason for denying equal opportunity for continued school training to the children of parents less well conditioned. No such demand is, however, made upon the community by the vocational school of the Beverly type. While high school students were receiving the benefit of cultural training, they were not rendering service in the community as productive laborers. In the year 1911–12, the 80 boys enrolled by the Beverly industrial school earned as wages a total of $10,243.09. When the first group of boys were graduated into the factory on full time, the total cost to the municipality and the State of maintaining the school for a period of between two and three years had amounted to a little over $11,200. The school had left on hand "an active 'stock in process' (56 boys in various stages of preparedness for the trade)."

A wage of $6 per week for 50 weeks—that is to say, of $300 per year, capitalized at 5 per cent—represents an economic value of $6,000. This approximately was the economic value as determined by capitalization of the earning power of the boys when they came into the school. The economic value of the boys graduated into full-time work in the factory ranged from $15,000 to $18,000.

The increase in economic value of each boy thus exceeded the total cost of maintaining the school during the period of his enrollment, while the wages actually earned by the boys as a group very nearly equalled the cost of maintaining the school. It should be noted in this connection that the boys on part time received as wages only one-half of their earnings, reckoned at the regular piece rate of wages in the factory. The product of their labor thus exceeded by 100 per cent the amount indicated by the amount of their wages.

Following is a table of wages earned by the students in three years:

Wages earned by 73 boys in 1909–10	$2,093.68
Wages earned by 62 boys in 1910–11	3,408.20
Wages earned by 80 boys in 1911–12	10,243.09
Total earnings, 3 years	15,744.97

The earnings for the year 1911–12 are distributed among the student groups as follows:

Earned by part-time boys—	
First-year students	$1,626.29
Second-year students	1,009.36
Third-year students	2,269.04
Earned by full-time boys	5,338.40
Total, 1911–12	10,243.09

The money value of trade training is summarized in the following table, as shown by the earnings of 12 machinist students, class of 1912:

Money value of trade training shown by earnings of 12 machinist students, class of 1912, 20-week periods, Aug. 2, 1909–Dec. 22, 1912.

Group.	Periods of 20 pay weeks.	Time in factory.	Rate per hour.	Rate per week of 50 hours.	Investment or potential value on which 5 per cent is earned.
I[1]	Aug. 2, 1909, to May 14, 1910	Part time	$0.0431	$4.31	$4,320.00
II[1]	do	do	.0456	4.56	4,560.00
				[2]4.44	
I	May 16, 1910, to Feb. 25, 1911	do	.0710	7.00	7,000.00
II	do	do	.0600	6.00	6,000.00
				[2]6.50	
I	Feb. 27, 1911, to Oct. 7, 1911, 15 weeks	do	.0913	9.13	9,130.00
	Oct. 9, 1911, to Nov. 11, 1911, 5 weeks	Full time	.2559	12.80	12,800.00
II	Feb. 27, 1911, to Dec. 16, 1911	Part time	.0880	8.80	8,800.00
I	Nov. 13, 1911, to Mar. 30, 1912	Full time	.3060	15.30	15,300.00
II	Dec. 18, 1911, to Feb. 24, 1912, 10 weeks	Part time	.0945	9.45	9,450.00
	Feb. 26, 1912, to June 8, 1912, 10 weeks	Full time	.2594	12.97	12,970.00
I	Apr. 1, 1912, to Aug. 10, 1912	do	.3244	16.22	16,220.00
II	June 10, 1912, to Nov. 2, 1912	do	.2825	14.13	14,130.00
I[3]	Aug. 12, 1912, to Dec. 28, 1912	do	.3348	16.75	16,750.00
II[3]	Nov. 4, 1912, to Dec. 28, 1912	do	.2908	14.55	14,550.00
				[2]15.65	[2]15,650.00

[1] Average age 16 years. [2] Average, I and II. [3] Average age 18 years 7 months.

While the abundant evidence in the records of graduates of public and private vocational schools is conclusive that the wage-earning and productive power of a boy is materially increased even by a few months of systematic vocational school training, this immediate and continuing increase in wage-earning and productive power which results from increased technical skill is not, perhaps, the chief economic advantage conferred by vocational training. The chances of promotion to more remunerative employment in after years are greatly increased by bringing a boy into his trade at an early age and an economic gain which is in some respects of greater value than the immediate increase in wages results both to the boy and to the community from any saving in time occupied in acquiring an elementary knowledge of a trade.

The boy who leaves school at the age of 14, or at a younger age, without any school training that is related to the life which he must lead as a wage earner drifts about from shop to shop during a period of several years, accepting casual and more or less temporary employment. And it may be noted that this sort of experience which the untrained youth must commonly pass through is calculated to kill out the boy's ambition and to make of him a casual, desultory workman rather than a skilled mechanic craftsman.

In a special report made in 1913 by the Massachusetts Board of Education on the "Needs and possibilities of part-time education" it is estimated that there were in Massachusetts, besides the 40,000 young people aged 14 to 17 years who were regularly employed, 35,000 boys and girls of these ages "who are not in school and who are employed either intermittently or not at all (p. 27). That is to say, approximately 35,000, or 46 per cent, of the boys and girls of the Commonwealth who had left school were "neither at work nor in school" (p. 31). It is perhaps fair to assume that the proportion of drifters who are idle a large proportion of the time is as great in other sections of the country as in Massachusetts. On this assumption the number of semiidle or wholly unemployed drifters aged 14 to 17 years in the United States in 1910 exceeded 1,350,000 (i. e., 46 per cent of 2,970,456, the number of boys and girls aged 14 to 17 years in the United States who were not in school).

This period of aimless drifting about, during which the youth is left to acquire by chance if he is persistent in his efforts and fortunate in his environment, an elementary training in some useful wage-earning pursuit may occupy five or six years. The vocational school shortens the period of apprenticeship by three or four years, and, what is even more important, by its systematic training enables the youth to avoid the dangerous experience of desultory drifting from one unskilled pursuit to another during precisely those years when habits of industry or of desultoriness are most easily established as life habits. The economic gain which will result from the saving in time required to bring a youth into his craft with full earning power, even if there were no increase whatever in that earning power as the immediate result of vocational training, would many times over repay the cost of giving such training.

Moreover, for the youth drifting about from shop to shop, the final selection of an occupation is commonly determined by accidental circumstances and is unrelated to natural aptitude. Following the two or three years of casual drifting—a period which is, in fact, not infrequently extended over a lifetime—the wholly untrained youth, when he enters upon his life occupation, does so not only at a relatively advanced age, but without any guidance or any assurance that it is an occupation for which he is in any degree suited by natural aptitude. Under this system the percentage of square pegs which get into round holes is necessarily exceedingly large, and comparative failure, discontent, loss of ambition, and inefficiency are necessary consequences. Socialized, these consequences mean for the community economic waste and social unrest. It is the purpose of vocational education not only to train youth along vocational lines, but also to assist the boy or girl to elect that occupation for which natural aptitude gives the greatest assurance of success and of economic usefulness. In a word, to propose to the youth that employment in which his chances of economic advancement are greatest.

APPENDIX D.

VOCATIONAL TRAINING ESSENTIAL FOR THE MAINTENANCE AND DEVELOPMENT OF OUR FOREIGN COMMERCE IN COMPETITION WITH EUROPEAN NATIONS.

Vocational training has become a condition of successful competition in foreign commerce. In the past our imports from Europe have been largely the product of skilled labor, and our exports to Europe largely the raw products of the soil, of mines, and of forests. In the process of exploiting our natural resources, we have exchanged the product of unskilled labor for the product of skilled labor. It will not be contended that our natural resources are, so far as regards commercial competition, inexhaustible and that with the rapid increase in population we shall continue for an indefinite period to have available for exchange in foreign commerce such large surpluses as have been available in the past of crude agricultural, mining, and forest products. These products will in larger proportion be required for home consumption.

The rapid development of Germany's foreign commerce in recent years is one direct consequence of her excellent system of vocational training, and the development of our own foreign trade, in competition with Germany and with other European nations, will be determined by our ability to compete with them, not as in the past on the basis of natural resources but on the basis of skill and efficiency.

In the decade, 1901 to 1911, Germany increased the volume of her foreign trade, including imports for consumption and domestic exports of merchandise, from $2,344,939,000 to $4,238,175,000, an increase of 81 per cent. In the same period the foreign commerce of the United States increased from $2,318,499,000 to $3,591,480,000, an increase of 55 per cent.[1] In 1901 the volume of our foreign commerce was very nearly equal to that of Germany; in 1911 Germany's foreign commerce exceeded ours by more than $646,695,000. In this period Germany increased the volume of her imports from $1,290,254,000 to $2,309,756,000. Her imports from the United States increased from $234,629,000 in 1901 to $319,755,000 in 1911. In 1901, therefore, imports from the United States constituted 18.2 per cent of Germany's total imports; in 1911 only 13.8 per cent.[2] These figures, taken from the official statistics of our foreign commerce, are not presented as representing with absolute accuracy either the volume of Germany's production for export or the volume of her consumption of imports. They are, however, significant of the rapid development of her foreign commerce in recent years. In 1911 Germany imported from the United States 1,101,353,712 pounds of raw cotton, valued at $156,796,596, or very nearly one-half of our exports to Germany. In 1911 our imports of manufactured cotton from Germany amounted to $13,549,882; of manufactured iron and steel to $8,528,083; of paper and manufactures of paper to $7,615,407; of toys to $7,078,880; of silks and manufactures of silk to $5,810,980; of manufactures of wool to $4,785,888; of china to $4,097,214; of gloves to $2,994,557; of glass and glassware to $2,181,640; of feathers and flowers to $1,831,884; of jewelry and manufactures of gold and silver to $1,226,089. Germany has created her markets with the diverse products of her skilled artisans and she has created her artisans by a universal system of vocational education.

In the following table is shown by percentages the proportion of imports from the United States in the total imports of certain countries for the years 1901 and 1910. It will be found that in the case of nearly all of the important commercial nations of Europe, including Germany, the United Kingdom, and France, the proportion which our products form of the total imports of those countries has decreased. The decrease in the case of Germany for these years was from 18.2 per cent in 1901 to 13.3 per cent in 1910; in the case of the United Kingdom from 27 per cent in 1901 to 17.3 per cent in 1910; of France, from 10.5 per cent in 1901 to 8.6 per cent in 1910; of Belgium from 15.1 to 5.4 per cent; of Denmark from 17 to 8.1 per cent; of Italy from 13.6 to 11.2 per cent.

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[1] See 1912 Report of the Bureau of Foreign and Domestic Commerce on the Commerce and Navigation of the United States, p. 42.

[2] See 1912 Report of the Bureau of Foreign and Domestic Commerce on the Commerce and Navigation of the United States, p. 40.

The table shows also the percentage of exports of these countries sent to the United States. In the case of Germany, while the proportion of our products in her total imports declined from 18.2 to 13.3 per cent, the proportion of her exports coming to the United States remained almost unchanged, the percentage being 8.7 in 1901 and 8.5 in 1910. In the case of the United Kingdom, while the proportion of our products in her total imports decreased from 27 to 17.3 per cent, the proportion of her exports coming to the United States increased from 6.6 to 7.4 per cent. In the case of Japan, the proportion of our products in her total imports decreased from 16.7 to 11.8 per cent, while the proportion of her exports to the United States in her total exports increased from 29 to 31.5 per cent.

The data indicate in the case of important countries that while the United States has become, relatively to other countries, less important as a market in which to buy, it has become relatively more important as a market in which to sell goods. While Germany, the United Kingdom, France, and Japan have increased their imports from countries other than the United States more rapidly than they have increased their imports from the United States, they have continued to send to the United States the same or an increasing proportion of their exports.

Countries.	Of total exports, percentage coming from the United States.		Of total exports, percentage going to the United States.	
	1901	1910	1901	1910
Austria-Hungary	7.8	8.3	1.7	3.4
Belgium	15.1	5.4	4.3	3.4
Denmark	17.0	8.1	2.2	.5
France	10.5	8.6	6.3	7.3
Germany	18.2	13.3	8.7	8.5
Italy	13.6	11.2	10.2	12.7
Netherlands	14.8	9.0	4.6	3.2
Russia	5.9	6.9	.5	.7
Spain	13.3	11.1	2.6	6.9
Sweden	2.3	7.8	.....	3.8
Switzerland	5.8	4.0	10.5	12.0
United Kingdom	27.0	17.3	6.6	7.4
Canada	58.4	60.8	22.9	38.0
Mexico	58.9	55.0	82.3	76.4
Cuba	43.0	52.8	70.1	87.1
British West Indies	27.9	42.9	54.8	33.8
Argentina	13.6	13.8	5.5	6.8
Brazil	11.6	13.0	42.9	36.2
Chile	11.9	12.3	8.5	20.6
China	8.5	5.2	9.8	8.5
British India	1.4	2.7	6.9	6.6
Japan	16.7	11.8	29.0	31.5
Australian Commonwealth	13.8	10.8	7.1	2.2
New Zealand	12.0	8.2	4.0	2.5

The prosperity of our industrial population must in the future be achieved in competition with the skilled and vocationally trained labor of Europe. That this is the case so far as our industrial prosperity depends directly upon the main enance and development of our foreign commerce is obvious. We can not, with the crude products of untrained labor, enter foreign markets on any footing of equality with the nations who have established a public policy of providing vocational training for their wage-earning population. It is, however, equally true that the pressure of this competition is felt in our home market. In the past it has been possible for our increase in population to occupy new land, which could be taken up at a nominal price. Since, however, our land is becoming more fully occupied, our increase in population in the future must find permanent employment in industry. These industrial workers can not escape to the land, and their economic well-being must therefore be achieved in those pursuits in which they are, to a very great extent, in direct competition with the vocationally trained labor of Europe. The continuance of our industrial prosperity in the future, therefore, depends upon a constant increase from year to year in the degree of technical and vocational skill attained. The cost in money and in effort involved in establishing and maintaining a system of vocational education which will insure a progressive state of efficiency is only increased by postponement.

APPENDIX E.

RESOLUTIONS OF NATIONAL ORGANIZATIONS FAVORING THE IDEA OF STIMULATING THE STATES TO GIVE VOCATIONAL EDUCATION.

Resolutions favoring the idea of stimulating the States to give vocational education have been passed by a great many national organizations during the past few years. A few of these resolutions are included in this appendix. The Commissioner of Education, in his report of 1912, notes the progress of public opinion favoring vocational education and states that "the press fairly teems with editorial and signed articles, which indicate an overwhelming sentiment in favor of enlarging and extending the scope of education in this country to include the training of the great mass of our workers for wage-earning occupations of every kind." [1]

He points out that social workers opposed to child labor, economists, employers and employees, and educators have joined hands with the friends of industrial education that "practically every great national organization in this country—commercial, industrial, social, economic, and educational—has voiced the sentiment of its State and local branches everywhere, both by resolutions and more or less active work in behalf of this great cause," and that "all of these organizations gave their support to the attempt to secure national grants for vocational education." Among these organizations the following are listed in the report of the commissioner:

National Metal Trades Association.
National Association of Manufacturers.
American Federation of Labor.
National Society for the Promotion of Industrial Education.
National Child Labor Committee.
National Committee on Prison Labor.
American Association for Labor Legislation.
National Education Association.
American Society for the Prevention and Study of Infant Mortality.
Southern Commercial Congress.
Southern Educational Association.
General Federation of Women's Clubs.
United Textile Workers of America.
American Society of Equity (representing more than 6,000,000 farmers).
National Farmers' Grange.
National Farmers' Congress.
Department of Superintendence, National Education Association.
International Congress of Farm Women.
American Foundrymen's Association.
National Domestic Science Association.
National Committee on Agricultural Education.
American Education and Cooperative Farmers' Union.
Chamber of Commerce of the United States of America.

In his speech, delivered June 5, 1912, on the Senate bill to provide for cooperation of the Federal Government with the States in encouraging secondary-school vocational education in agriculture, trades, industries, and home economics (S. 3), Hon. Carroll S. Page makes the following statement:

"I have stated that agricultural, industrial, labor, and manufacturers' associations are demanding the passage of this bill. I might add that boards of trade, federations of women's clubs, the National Metal Trades Association, the National Association of Builders' Exchanges, the American Institute of Electrical Engineers, the American Society of Mechanical Engineers, the International Typographical Union, the Young Men's and Young Women's Christian Associations, and a very large number of other national, State, and local associations, have indorsed this measure.

"They cover all sections of the Union. * * * If there is any association connected with or especially interested in educational work anywhere in this country,

[1] Commissioner of Education, Report for 1912, Vol. I, p. 287.

which does not earnestly and enthusiastically indorse the great principle of vocational education sought to be worked out by this bill, I am not aware of it." (62d Cong., 2d sess., S. Doc. No. 845, pp. 58–59.)

The American Federation of Labor at its annual convention in 1907, 1908, 1909, 1910, and 1911 passed resolutions favorable to industrial education, and in 1908 authorized the appointment of a special committee on industrial education. This committee has prepared an elaborate report covering the needs of industrial education, and the extent to which those needs are met by existing institutions, and making definite suggestions for the promotion of industrial education. The 1912 convention of the Federation expressed its approval of the Page bill in the following terms:

"The Page bill * * * creates a plan for Federal grants to secondary public schools, thus giving direction to a complete scheme of education in which all the children of the Nation should receive a just and equitable share of attention.

"Much time and attention has already been given to this bill by the president of the American Federation of Labor, as well as by the legislative committee, and considerable hope has been expressed for its ultimate success. * * * Every effort should be made to secure such legislation, guaranteeing high Federal standards with the widest possible latitude within the States, for adaptation to the specific needs of the various communities."

The position of the American Federation of Labor is further indicated in the following statement from a letter, dated March 21, 1912, written by the president of the federation to Hon. Carroll S. Page:

"DEAR SIR: The position of the American Federation of Labor is so well known in reference to vocational education that it ought to be unnecessary to further present its views. However, as you are actively and earnestly engaged in an effort to secure the passage of the Page-Wilson vocational education bill, drawn upon similar lines as was the Dolliver-Davis bill, which latter was acceptable to the organizations of labor, I desire to assure you that the American Federation of Labor desires to give every assistance within its power to secure the final enactment of this legislation."

Resolutions of the National Association of Manufacturers, eighteenth annual convention, Detroit, Mich., May 19–21, 1913:

"The National Association of Manufacturers in convention assembled expresses its judgment as follows concerning vocational education:

"First. It is the purpose of vocational education to save, educationally, that 50 per cent of the children of the land who now leave school by the end of the sixth grade, undirected, unskilled, uninformed, and to train them and others of all ages in the essentials of successful and happy workers in their chosen occupations, in commerce, in manufacturing, in agriculture and in home making.

"Second. It is essential that the teachers in vocational schools shall have had extended experience in actual employment in the occupations taught, to the end that the instruction be practical and meet actual conditions.

"Third. It is equally necessary that State and local boards of control be established (either as new bodies or reorganizations of former bodies), consisting principally of employers and employees from the vocations, thereby assuring that the instruction given shall justify the confidence and hope of students, parents, and the vocational interests whose cooperation is essential to proper outcome. Failure has marked every great attempt at vocational education not so directed.

"The requirement that employers and employees be largely responsible for the conduct of the schools is not based upon an assumption of their general superiority, but only upon the clear knowledge that among such men are very many of as great patriotism, broad vision, and creative ability as are elsewhere to be found, and because, noblesse oblige, they alone know the requirements of their callings. It is their duty and privilege to give to the public service their special training and experience—just as doctors of medicine must be upon health boards and engineers upon boards of public works.

"Our system of common-school education is exceedingly defective in important particulars and behind that of the foremost countries of Continental Europe because business men have not been upon State and local boards, or when on, have served only perfunctorily and not with the interest which they give to their personal affairs.

"Fourth. The continuation school is essential as the only method of teaching the millions who leave school before finishing the elementary courses. Trade schools are of value for relatively few students of especial promise and for training for the higher places in the vocations. They should be secondary to continuation schools and draw their students principally from the most successful students in the continuation schools." (Proceedings of Eighteenth Annual Convention of the National Association of Manufacturers, pp. 195–6.)

Resolution of the National Grange, Forty-fifth Annual Session, held at Columbus, Ohio.

"*Resolved*, That the National Grange in forty-fifth annual session assembled, does hereby indorse the Page bill, Senate bill No. 3, to provide for vocational education in secondary schools, the training of teachers for these schools, agricultural extension and agricultural demonstration." (Hearing before Senate Committee on Agriculture and Forestry, 62d Cong., pp. 39–40.)

Resolution adopted by a unanimous vote of the National Education Association relative to vocational education, Chicago, 1912:

"We heartily indorse the comprehensive plan now before Congress for increasing the facilities in State colleges of agriculture and mechanic arts, State normal schools, and elementary schools for training in agriculture, domestic economics, and other industrial work to the great mass of our people through the public schools of the entire country."

Resolution of the Chamber of Commerce of the United States, unanimously adopted at the annual meeting in Washington, January 22, 1913:

"*Resolved*, That we indorse the Page bill (S. 3) in its essential provisions and urge upon Congress its enactment."

Resolution of the National Metal Trades Association, 1913:

"*Be it resolved*, That the National Metal Trades Association in convention assembled, recognizing that the future prosperity of this country and the welfare of its people is dependent upon their efficiency in the home, the shop, and the farm, believe strongly that Federal aid of a substantial character for industrial household arts and agricultural training, fitting young people for all kinds of useful and wage-earning occupations should be granted by the National Government at the earliest possible moment, in order that the various States of the Union may be impressed with the interest of the National Government in the movement for practical education, and, stimulated by the aid and cooperation which Federal support would give, we believe that the conservation of the practical and construction ability of the young people of this country is to-day at least as important a duty on the part of this country as the conservation of our forests and our mines, and that every consideration demands that steps should be taken to secure Federal aid for promoting a system of education that will send our boys and girls out to the duties of life fit to be effective intelligent workers as well as useful citizens.

"FRED A. GEIER."

Resolution passed at a joint meeting of the American Education and Cooperative Farmers' Union and the American Society of Equity May 6, 1910:

"*Resolved*, That we approve the provisions of the Dolliver vocational education bill, which provides national funds for the establishment of rural high schools, to be administered by State authority, and earnestly urge Members of the United States Senate and House of Representatives to favor this bill." (From hearing before the Committee on Agriculture and Forestry, United States Senate, 62d Cong., 2d sess., on S. 4563, p. 78.)

Indorsement by the National League of Industrial Education, through its president, Mr. Herbert Myrick:

"The proposed plan of vocational education has been my special pride ever since it was suggested. I believe it will do more for the welfare of each and every section of the United States than any one measure now pending. Each dollar wisely expended under this bill will do more for the American people than each $10 or even each $100 spent on the Army and Navy." (From Report Committee on Agriculture and Forestry, United States Senate, 62d Cong., on Senate bill 3, p. 10.)

Resolution adopted by the National Women's Trade Union League at its biennial convention in St. Louis in June, 1913:

"*Resolved*, That the National Women's Trade Union League urge upon the educational authorities to establish trade and technical and vocational industrial schools in connection with the public schools, and that the courses of instruction in such schools include, besides the subjects necessary to trade training, the history of the trades taught, the history of the evolution of industry, and a sound system of economics, including and emphasizing the philosophy of collective bargaining; also that all training in such schools be coeducational, the boy and girl studying the same subjects."

Resolution adopted by the Farmers' National Congress in Madison, Wis.:

"*Resolved*, That we again heartily approve the bill introduced in Congress by Hon. C. R. Davis, of Minnesota, to inaugurate in secondary schools of the several States the industrial education first established by the congressional land-grant act of 1862, which resulted in the founding of our State colleges of agriculture, mechanic arts, and domestic science."

Resolutions adopted by the department of superintendence of the National Educational Association at its meeting in Indianapolis, Ind., March 3, 1910:

"SEC. 9. That we favor the encouragement of agricultural education by National and State assistance.

"SEC. 5. That the department, while heartily approving every agency that may be used to advance the educational interests of both State and Nation, places itself on record as disapproving any appropriation made by either legislatures or Congress for any institution which is not supported exclusively by public funds and which is not subject to complete Federal or State control and investigation."

Resolution adopted at the recent International Congress of Farm Women, held at Colorado Springs, Colo., 1911:

"*Resolved*, That this congress indorses the vocational education bill now pending in the Congress of the United States whereby the States and Nation may combine in a comprehensive plan of effective vocational training in secondary schools, through which the rural elementary school may be benefited."

Resolutions adopted at a recent meeting of the Southern Educational Association held at Houston, Tex., 1911, demanded that—

"agricultural education should have its rightful place in the instruction of the rural population, and we heartily commend the efforts of the many agencies now at work to give training in this and allied subjects to the children in the rural districts"—

and indorsed unqualifiedly the—

"bill introduced anew in the United States Senate by Senator Page as a measure calculated to promote most effectually and practically the secondary industrial training of both races." (From Report Committee on Agriculture and Forestry, United States Senate, 62d Cong., on Senate bill 3, p. 9.)

Resolutions unanimously adopted by the International Dry Farming Congress at its annual gathering at Colorado Springs, October 16–20, 1911:

"This congress reiterates the conviction voiced by former congresses in favor of financial Federal aid for rural education and agricultural extension, the same to be expended exclusively by the several States in the interests of agriculture, home economics, and the mechanic arts, and for preparing teachers for the same, and, as far as possible, to make use of the organizations now established in the several States. This congress urges upon its members that they use all legitimate influence to the end that the coming session of the Congress of the United States may witness the enactment into law of a comprehensive plan for agricultural and vocational education and training in the common and high schools.

"Realizing that the results of agricultural education during the past two decades have demonstrated the equal importance of the education of the farm women along parallel lines with the education of the farmer, and also realizing that the carrying forward of agricultural propaganda, in so far as it relates to the establishment of happy, contented homes on all farms, and also realizing that home economics is greatly in need of experimental data for the systematizing of its field, this congress heartily indorses the bill now pending before the United States Senate which provides for a permanent annual appropriation to each State experiment station for the purpose of conducting original or confirmatory experiments dealing with the whole field of home economics, and requests our respective Senators and Representatives to urge this bill for early passage." (From Report Committee on Agriculture and Forestry, United States Senate, 62d Cong., on Senate bill 3, pp. 7–8.)

Resolution of the Southern Commercial Congress, at a meeting in Washington, D. C., December, 1911:

"*Resolved*, That the conference of friends of vocational education assembled in Washington, December 14, 15, and 16, 1911, select a committee on ways and means whose duty it shall be to further the interests of the Page bill (S. 3) and to work for its successful passage."

APPENDIX F.

ESTIMATE OF NUMBER OF CHILDREN WHO LEAVE SCHOOL BETWEEN THE AGES OF 14 AND 18 YEARS.

It is possible to estimate, from the census data, with a fair degree of accuracy, the number of children who leave school each year between the ages of 14 and 18 years.

The census of 1910 gives the school population by single years of age, and the decrease in this population from age to age may be taken as representing approximately the number who leave school at each age. The census data indicate that more than 1,000,000 children aged 14 to 18 leave school each year. The basis of this estimate is given in the following table:

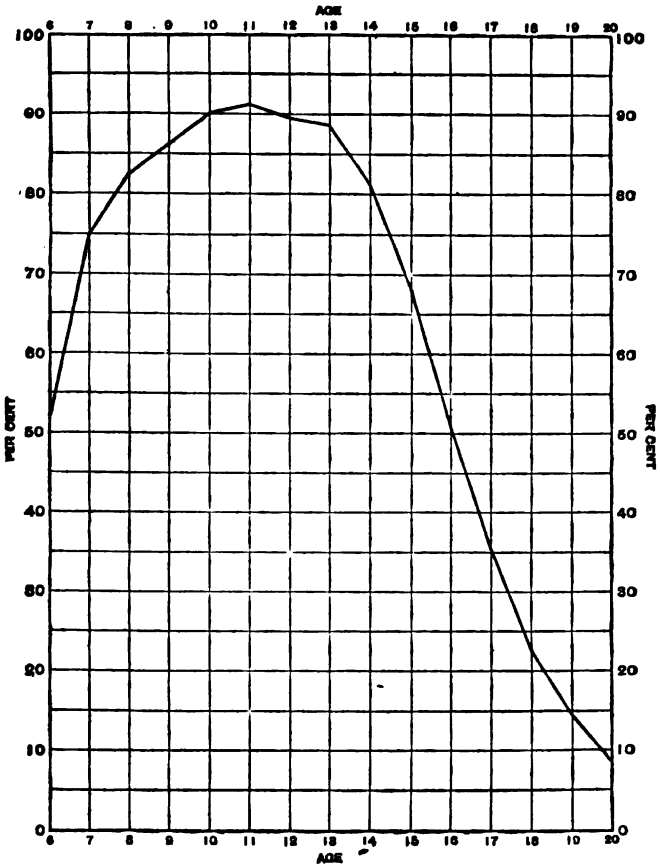
Population aged 14 to 18 years, 1910.

Age.	Total population.	Number in school.	Decrease in school population.
14	1,848,122	1,501,456	.....
15	1,721,225	1,175,009	326,447
16	1,864,711	943,511	231,498
17	1,786,240	629,866	313,645
18	1,928,366	434,864	195,002
Total	9,148,664	4,684,706	1,066,592

The table shows that the number of children in school in 1910, aged 14, was 1,501,456. The number in school aged 15 was 1,175,009, the decrease, as compared with the number aged 14, being 326,447. These figures may be taken as indicating a permanent condition of the population as regards school attendance. On this assumption, the decrease in the school population aged 15, as compared with the school population aged 14, represents approximately the number of children who leave school in their fifteenth year of age. Similarly the decrease for the age 16, as compared with the age 15—231,498—represents approximately the number of children leaving school in their sixteenth year, and the total decrease for the age period 14 to 18—1,066,592—the number leaving school each year, aged 15 to 18 years.

The margin of error in this estimate is inconsiderable, and may be briefly indicated as follows: (1) The increase in our population brings into the schools each year a larger number of children. The school population aged 14 thus represents a somewhat larger population than does the school population aged 15. (2) The decrease as given in the table covers mortality of the school population, aged 14 to 18 years. (3) A certain number of children, chiefly children of immigrants, enter our schools for the first time at the age 14 to 15 years. The first two of these factors tend to offset the last factor, so that the decrease in the school population may be taken as indicating approximately the number leaving school each year at the age specified.

The following diagram taken from the report of the Thirteenth Census (Vol. I, p. 1099) shows the percentage attending school for each year of age for the ages 6 to 20 years. The sharp break in the curve occurs at the age 13; this age in the census returns includes all children who were 13 at their last birthday. The next point of the curve, at the age 14, is much lower and refers to children all of whom have passed 14 and, in many States, are legally entitled to leave school and go to work.



PERCENTAGE ATTENDING SCHOOL IN THE TOTAL POPULATION 6 TO 20 YEARS OF AGE: 1909–10.

APPENDIX G.

THE INCREASING AND INEQUITABLE BURDEN OF THE STATES IN PROVIDING MORE MONEY FOR THE PUBLIC SCHOOLS TO MAKE EDUCATION PRACTICALLY EFFICIENT.

It is the purpose of this appendix to present data showing how far the large and increasing burden of the States in meeting the costs of regular education and the improvements in regular education, create a national obligation on the part of the Federal Government to assume some portion of this increasing burden by Federal grants which will stimulate and support the vocational education work which the States are bound to give for the welfare of their own people and that of the Nation.

The increasing cost of the public schools.—In the decade 1901–1911, the States very generally increased their appropriations for the public schools. In 1901 the average daily expenditure per pupil in the country as a whole was 14.7 cents. According to the 1912 report of the Commissioner of Education, the average daily expense per pupil in 1911 was 22.14 cents, an increase of 50 per cent. In 1901 the average number of days attendance for every child 5 to 18 years of age was 68.3; in 1911, 81.1. The average number of days the schools were kept during the year was increased from 144.3 in 1900 to 156.8 in 1911.

While these figures indicate that progress has been made during the past decade, the demands for further improvement were never greater than they are to-day. The Commissioner of Education credits the following criticism of our public schools to Mr. Francis G. Blair, State superintendent of public instruction of Illinois.

"What we are doing in public education to-day is at least 25 years behind what we think we ought to be doing. * * * When we turn our faces to look upon educational things as they really are and see the little circumscribed school grounds, the ill-constructed school buildings, ill-lighted, ill-ventilated, ill-suited to the life and work of millions of children; when we see the narrow, constricted courses of study, the short terms of school; when we look into the schoolrooms and see the work done in so many instances by immature, ill-prepared, incompetent teachers—when we see all this a chill of disappointment, amounting almost to discouragement, comes over us, and we break forth into the question: Why is it that this great instrument of public education is so unresponsive to the theory and the thought of those who know the most about what it should be? Why is it that this great wagon of the common school is not more closely hitched to the star of educational progress?" [1]

In the school year 1910–11, the average expenditure per capita of school population (i. e., population 5 to 18 years of age) was $17.97. This amount falls very far short of the amount which has been suggested as a reasonable minimum—we are still very far from spending for the moral and mental training of the child as much as we must spend for his food.[2] In the States of the South Central division the average expenditure per capita of school population in 1910–11 was only $8.06; in the States of the South Atlantic division only $7.61. The highest average is that for the Western division, $34.38; the corresponding figure for the North Atlantic division being $23.81, and for the North Central division, $21.74. Among the States the highest average is that for Nevada, $42.26; the lowest that for South Carolina, $4.22. The conclusion from these figures is inevitable that over a very large area of the United States much more money is needed for public schools.

The newer education demanded, including vocational education, is at every point more costly than the old formal book training. The newer education calls for teachers who can teach botany and geography and natural science in the fields and in the shops, it calls for laboratories and expensive equipment; for larger buildings and for smaller classes; for more continuous work throughout the year; and for a retention of

[1] Report of Commissioner of Education, 1912, Vol. L, pp. 2–3.

[2] "Could anybody imagine it to be unreasonable to spend for the mental and moral training of a child as much as is spent on his food?" (C. W. Eliot: More money for the public schools.)

more children in school for a longer period of years. It may be noted in passing that this greater cost is justified by the achievements of the new education, and that it is essential to national progress.

No one will propose to-day any retardation of the movement to make education, including vocational education, practically efficient, which has in recent years acquired such momentum. More money must, therefore, be provided for the public schools, and the question may fairly be raised whether the entire amount of this increasing cost may fairly be charged upon the revenues of the States and of local communities within the States.

The resources of the States.—In answering this question the resources of the several States must be taken into account and in the two tables following a summary statement of these resources is presented. The first table gives, by States, the estimated wealth in 1913 per capita of school population. In the United States as a whole the average wealth per capita of school population is $5,674. The range by States is from $1,517 in South Carolina to $18,074 in Nevada. In five States the average wealth per capita of school population is less than $2,000; in 8 States it is between $2,000 and $3,000; and in 3 States between $3,000 and $5,000. In 5 States (not including the District of Columbia) the average exceeds $10,000. It will be apparent from this table that the resources in a considerable number of States are, relatively to the resources available in other States, very inadequate. Assuming that the people of the several States are equally disposed to contribute to the support of their schools in proportion to their means, and that some uniform rate of taxation is assessed upon property in all the States as a levy to provide for the schools, there will be expended per capita of school population in the education of the youth of Nevada nearly 10 times the amount available in the State of Georgia, or Alabama; in California approximately five times as much as is available in Arkansas, Florida, Kentucky, Louisiana, Oklahoma, Tennessee, Texas, or Virginia, and approximately twice as much as is available in Delaware, Indiana, Maine, Maryland, Missouri, South Dakota, Utah, Vermont, Washington, or Wisconsin. It will not be contended that these amounts are even roughly proportional to the needs of the States, or that the youth of one State require as citizens of the United States an expenditure per capita only one-tenth or one-fifth, or one-half as great as is required by the youth of another State.

Estimated wealth per capita of school population.

Alabama	$1,879	Nevada	$18,074
Arizona	6,948	New Hampshire	6,254
Arkansas	2,290	New Jersey	6,428
California	11,396	New Mexico	4,288
Colorado	8,449	New York	8,782
Connecticut	6,811	North Carolina	1,567
Delaware	5,197	North Dakota	6,037
District of Columbia	18,243	Ohio	6,648
Florida	2,459	Oklahoma	2,794
Georgia	1,865	Oregon	7,886
Idaho	4,740	Pennsylvania	7,815
Illinois	8,601	Rhode Island	7,283
Indiana	5,951	South Carolina	1,517
Iowa	9,266	South Dakota	5,244
Kansas	6,188	Tennessee	2,082
Kentucky	2,698	Texas	2,956
Louisiana	2,682	Utah	5,428
Maine	5,537	Vermont	5,026
Maryland	5,445	Virginia	2,566
Massachusetts	7,767	Washington	5,403
Michigan	6,283	West Virginia	3,176
Minnesota	11,041	Wisconsin	5,578
Mississippi	1,554	Wyoming	12,633
Missouri	5,472		
Montana	11,209	United States	5,674
Nebraska	8,296		

In the second table is shown the per capita indebtedness of the States. Here again it will be found that the conditions vary greatly from State to State. The per capita indebtedness of Massachusetts amounts to $22.78, while in the case of 13 States the per capita indebtedness is less than $1.

Per capita indebtedness by States, 1912–13.

Alabama	$5.95	Nevada	$6.70
Arizona	13.02	New Hampshire	4.50
Arkansas	.76	New Jersey	.24
California	2.20	New Mexico	3.41
Colorado	3.70	New York	9.06
Connecticut	6.12	North Carolina	3.36
Delaware	3.70	North Dakota	1.29
Florida	.77	Ohio	1.05
Georgia	2.57	Oklahoma	3.91
Idaho	5.92	Oregon	.04
Illinois	.39	Pennsylvania	.....
Indiana	.49	Rhode Island	9.02
Iowa	.03	South Carolina	3.98
Kansas	.17	South Dakota	.58
Kentucky	1.90	Tennessee	6.45
Louisiana	7.97	Texas	1.14
Maine	1.67	Utah	3.62
Maryland	5.56	Vermont	1.58
Massachusetts	22.78	Virginia	10.46
Michigan	2.41	Washington	1.21
Minnesota	.63	Wisconsin	.93
Mississippi	2.41	Wyoming	.77
Missouri	1.40		
Montana	3.73	United States	3.56
Nebraska	.31		

The responsibility of the Federal Government.—It will be apparent from the data presented that if the entire cost of the vocational education is to be a charge upon the State revenues, the burden will be much heavier for some States than for others, and the inevitable consequence will be that progress will be retarded or indefinitely postponed throughout a very large section of the country. This consideration alone would seem sufficient justification for an assumption by the Federal Government of some portion of the financial burden. But the justification of a Federal grant in aid of vocational education does not lie principally in the unequal resources of the several States. Independently of any consideration of the relative capacity of the several States and whatever the amount required to be expended in the country as a whole on account of the public schools, an equitable apportionment of that amount as a charge upon public revenues involves an assumption of some portion of the financial burden by the Federal Government. The responsibility of the Federal Government does not arise primarily from the fact that the resources of some States are, relatively to the resources of other States and to their own educational needs, insufficient to support good schools, nor from the fact that so long as the schools are left dependent upon general property taxes assessed by the States severally, the schools in some States are certain to be for an indefinite period comparatively inefficient. These conditions might, as already observed, entirely justify liberal contributions by the Federal Government, but the responsibility of the Federal Government arises fundamentally from an entirely different order of facts, and would exist even if all the States were amply able to furnish adequate revenues for the maintenance and development of their public schools.

The youth of any community are citizens not only of the State in which their parents happen to be residing, but in a much more real sense are citizens of the United States. It is, moreover, rather the exception than the rule that a youth continues throughout the period of economic productivity to live in the community in which he has received his school training. The States in the East, both in the North and in the South, are educating future citizens for the West, and in a lesser degree the States of the West are educating citizens for the East; the States of the North citizens for the South; and the States of the South, citizens for the North. The public schools of each State are educating the future citizens of every other State, but in very unequal proportions, some States showing large net gains in citizenship and others large net losses on account of interstate migration.

While data are not available for an accurate calculation of the extent to which the citizenship of any given State is dependent upon the educational institutions of other States, certain large facts regarding our population may be cited as indicating that the dependence is very considerable, and of such a nature as to make the burden of the cost of maintaining schools much heavier for some States than for others. Every report of the census has shown a westward drift of population, and in recent years

the drift to the large urban centers has involved an increasing proportion of the population. Every large city is attracting each year within the boundaries of the State in which it is located a larger number of migrants from every section of the country. The following table taken from the Report of the Thirteenth Census gives for each State the number of natives of the State in the total population of the country; the number living in States other than the State of birth; and the number of natives of other States living in the given State. The table shows that in 1910 nearly 17,000,000 natives of the United States were found living in States other than the State of birth, and shows, for example, that of the population born in Nevada 46.4 per cent were living in other States, while of the native population living in Nevada 64.7 per cent were born in other States. Of the 2,218,420 natives returned in 1910 as born in Iowa, more than one-third, 801,836, were living in other States, and the more detailed tables of the Census show that of these natives of Iowa living in other States, 94,623 were living in Nebraska, 75,815 in South Dakota, 67,100 in Minnesota, 64,333 in Kansas, 57,948 in Illinois, 56,893 in Missouri, 54,960 in California, 47,862 in Washington, 44,276 in Colorado, 41,186 in Oklahoma, 30,553 in North Dakota, 28,242 in Oregon, and 138,045 in other States; on the other hand, Iowa's own population in 1910 embraced 524,774 natives of other States. As illustrative of the influence of our large and small cities, in originating interstate migration, it is noted that of the 686,616 natives of other States living in New York State, 364,312, or more than half, were in 1910 living in New York City, and that 82 per cent were living in urban communities.

Population born in and living in the United States and with State of birth reported, 1910.

State.	Born in the specified State.			Living in the specified State.		
	Total.	Living in other States.		Total.	Born in other States.	
		Number.	Per cent.		Number.	Per cent.
United States	78,095,419	16,910,114	21.7	78,095,419	16,910,114	21.7
New England:						
Maine	791,827	213,088	26.9	628,748	50,009	8.0
New Hampshire	375,522	126,893	33.8	331,191	82,562	24.9
Vermont	407,940	157,460	38.6	302,645	52,165	17.2
Massachusetts	2,218,157	356,337	16.1	2,295,924	434,104	18.9
Rhode Island	340,098	72,982	21.5	361,826	94,710	26.2
Connecticut	773,671	166,597	21.5	781,754	174,690	22.3
Middle Atlantic:						
New York	6,964,461	1,317,398	18.9	6,333,679	686,616	10.8
New Jersey	1,614,674	270,510	16.8	1,869,239	525,075	28.1
Pennsylvania	6,763,717	1,125,454	16.6	6,297,467	569,204	9.2
East North Central:						
Ohio	4,713,009	1,166,018	24.7	4,154,343	607,352	14.6
Indiana	2,805,516	774,171	27.6	2,532,765	501,420	19.8
Illinois	4,714,723	1,308,085	27.7	4,403,827	997,189	22.6
Michigan	2,168,645	407,560	18.8	2,197,411	436,326	19.9
Wisconsin	2,077,862	519,407	25.0	1,814,984	256,529	14.1
West North Central:						
Minnesota	1,446,106	324,730	22.5	1,523,513	402,137	26.4
Iowa	2,218,420	801,836	36.1	1,941,358	524,774	27.0
Missouri	3,141,883	918,958	29.2	3,045,663	822,738	27.0
North Dakota	245,810	47,963	19.5	414,843	216,996	52.3
South Dakota	305,604	80,479	26.3	479,887	254,762	53.1
Nebraska	839,783	244,232	29.1	1,009,607	414,056	41.0
Kansas	1,251,574	427,946	34.2	1,546,596	722,968	46.7
South Atlantic:						
Delaware	197,813	60,682	30.7	184,416	47,285	25.6
Maryland	1,297,179	270,824	20.9	1,188,138	161,783	13.6
District of Columbia	185,453	46,102	24.9	303,974	164,623	54.2
Virginia	2,464,845	621,693	25.2	2,032,038	188,886	9.3
West Virginia	1,118,754	187,677	16.8	1,161,002	229,925	19.8
North Carolina	2,470,495	380,767	15.4	2,198,333	108,605	4.9
South Carolina	1,692,548	261,520	15.5	1,508,024	76,996	5.1
Georgia	2,828,309	463,960	16.4	2,585,894	221,545	8.6
Florida	515,428	52,425	10.2	707,839	244,836	34.6
East South Central:						
Kentucky	2,704,675	673,290	24.9	2,246,902	215,517	9.6
Tennessee	2,544,434	671,207	26.4	2,159,646	286,419	13.3
Alabama	2,316,790	458,874	19.8	2,114,947	257,031	12.2
Mississippi	1,915,124	351,285	18.3	1,782,607	218,768	12.3

Population born in and living in the United States and with State of birth reported, 1910—Concluded.

State.	Born in the specified State.			Living in the specified State.		
	Total.	Living in other States.		Total.	Born in other States.	
		Number.	Per cent.		Number.	Per cent.
West South Central:						
Arkansas	1,397,657	341,717	24.4	1,550,015	494,075	31.9
Louisiana	1,599,273	193,337	12.1	1,596,245	190,309	11.9
Oklahoma [1]	626,452	111,240	17.8	1,608,056	1,092,844	68.0
Texas	3,135,026	404,269	12.9	3,638,665	907,908	25.0
Mountain:						
Montana	132,164	32,850	24.9	277,097	177,783	64.2
Idaho	122,388	32,163	26.3	280,268	190,063	67.8
Wyoming	51,079	19,297	37.8	116,051	84,269	72.6
Colorado	323,334	89,818	27.8	663,780	430,264	64.8
New Mexico	218,693	33,944	15.5	302,703	117,954	39.0
Arizona	96,273	17,324	18.0	153,648	74,699	48.6
Utah	304,968	61,914	20.3	303,709	60,055	20.0
Nevada	40,397	18,757	46.4	61,340	39,700	64.7
Pacific:						
Washington	318,619	55,925	17.6	870,920	608,226	69.8
Oregon	293,640	68,538	23.3	554,640	329,538	59.4
California	1,004,607	100,611	10.0	1,767,232	863,236	48.8

[1] Includes population of Indian Territory for 1900.

If it were possible to determine for any generation of school children precisely what proportion of the years of economic productivity would be lived within the boundaries of the State which is bearing the expense of their education and to determine accurately what proportion of the years of economic productivity of youth trained in other States would be lived within the boundaries of the given State, the responsibility of the several States might be determined. No data are available for any such calculation, but it is clear from the census figures that a very large proportion of the population of many States must have received their school training in States other than the State in which they were living at the date of the census, and this process of education by which one State educates for citizenship in another State, or rather for citizenship in the United States, is a continuous process, which burdens the educational system of one community for the future advantages of other communities.

The responsibility of the Federal Government in the matter of vocational education arises from three different orders of facts entirely independent of the relative resources of the States themselves: (1) The citizenship of each youth, whether or not he remains in the State in which he received his school training, is national as well as State; (2) a large proportion of the youth of each State are, however, in fact the future citizens of other States, some States being on this exchange creditors and other States debtors, and finally as regards the provision of vocational training the fundamental fact is that (3) the industries of each State are producing in a greater or less degree the means of subsistence for the population of every other State, so that the economic well-being of the country as a whole is dependent upon the economic efficiency of the workers in each State. The principle of democracy which demands that every youth shall have an opportunity to acquire that training which is a condition of efficiency and good citizenship, imposes a specific obligation upon the Federal Government to equalize the burden of providing this education for efficiency. Within the States the principle is already established of charging upon the State revenue a portion of the cost of maintaining schools in certain districts, where the conditions are such as to render the per capita cost of providing school facilities excessive. The Commissioner of Education in his 1912 report notes, for example, the provision in New Mexico, setting aside one-half of the current school fund to be "distributed according to their needs to those districts which can not maintain school for five months with a maximum tax of 15 mills." Other States make special provisions in aid of weak districts or in aid of schools established locally to give vocational training. This principle of equalizing the burden of taxation for schools must be extended to the country as a whole, not as a charity to any section, but in the fulfillment of a plain national obligation to adjust equitably the burden of the cost of the new education for efficiency.

APPENDIX H.

THE INCREASING BURDEN OF TAXATION IN URBAN COMMUNITIES.

The table below shows, for the nine cities which had at least one-half million inhabitants in 1912, that while the assessed valuation of the property increased much more rapidly than the population, the rate of the property tax per $1,000 increased in some cases and decreased in others. The per capita levy of the property tax increased in every instance and in most cases increased markedly, and the per capita net indebtedness increased in six of the nine cities. Thus it is clear that the financial burden on the taxpayers in large cities is increasing rapidly and that they need help in order to be able to assume the added expense of vocational training.

In cities of the United States, having a population of 30,000 and over combined, the average per capita levy of property taxes increased from $14.18 in 1905 to $18.25 in 1912.

In Newark, N. J., the per capita tax levied increased from $11.13 in 1905 to $18.54 in 1912; in Hartford, Conn., from $15.23 to $22.16; in Springfield, Mass., from $14.32 to $21.94; in Yonkers, N. Y., from $15.70 to $22.95; and in Atlantic City, N. J., from $17.35 to $24.85.

Population, assessed valuation of property, per capita taxation, and indebtedness of cities having a population of at least 500,000 in 1912.

	1912	1905	Increase.	
			Amount.	Per cent.
New York:				
Population	5,064,237	4,000,403	1,063,834	26.6
Assessed valuation of property	$9,177,495,629.00	$6,194,329,218.00	$2,983,166,411.00	48.2
Rate of the property tax for city purposes [1]	$18.34	$14.95	$3.39	.....
Per capita levy of property taxes	$30.72	$22.10	$8.62	.....
Per capita net indebtedness	$156.57	$118.91	$37.66	.....
Chicago:				
Population	2,294,711	1,990,750	303,961	15.3
Assessed valuation of property	$940,450,171.00	$407,991,625.00	$532,458,546.00	130.5
Rate of the property tax for city purposes [1]	$41.21	$55.52	[2] $14.31	.....
Per capita levy of property taxes	$16.96	$11.38	$5.58	.....
Per capita net indebtedness	$28.62	$33.33	[2] $4.71	.....
Philadelphia:				
Population	1,606,102	1,417,062	189,040	13.3
Assessed valuation of property	$1,556,323,614.00	$1,238,861,426.00	$317,462,188.00	25.6
Rate of the property tax for city purposes [1]	$14.76	$14.51	$0.25	.....
Per capita levy of property taxes	$14.30	$12.68	$1.62	.....
Per capita net indebtedness	$60.64	$44.80	$15.84	.....
St. Louis:				
Population	712,027	636,973	75,054	11.8
Assessed valuation of property	$652,261,285.00	$527,105,201.00	$125,156,084.00	23.7
Rate of the property tax for city purposes [1]	$18.88	$20.20	[2] $1.32	.....
Per capita levy of property taxes	$17.35	$14.74	$2.61	.....
Per capita net indebtedness	$33.72	$32.15	$0.57	.....
Boston:				
Population	711,128	595,380	115,748	19.4
Assessed valuation of property	$1,489,608,820.00	$1,260,908,081.00	$228,700,739.00	18.1
Rate of the property tax for city purposes [1]	$14.93	$14.86	$0.07	.....
Per capita levy of property taxes	$31.31	$31.17	$0.14	.....
Per capita net indebtedness	$106.42	$113.34	[2] $6.92	.....

[1] Per $1,000 of assessed valuation. [2] Decrease.

Population, assessed valuation of property, per capita taxation, and indebtedness of cities having a population of at least 500,000 in 1912—Concluded.

	1912	1905	Increase.	
			Amount.	Per cent.
Cleveland:				
Population	596,970	437,114	159,856	36.6
Assessed valuation of property	$756,831,185.00	$214,033,000.00	$542,798,185.00	253.6
Rate of the property tax for city purposes [1]	$13.15	$26.82	[2] $13.67	.....
Per capita levy of property taxes	$16.78	$13.14	$3.64	.....
Per capita net indebtedness	$79.53	$55.39	$23.14	.....
Baltimore:				
Population	569,560	546,217	23,343	4.3
Assessed valuation of property	$733,800,340.00	$503,144,182.00	$220,656,158.00	43.9
Rate of the property tax for city purposes [1]	$13.69	$19.89	[2] $6.20	.....
Per capita levy of property taxes	$15.53	$12.09	$3.44	.....
Per capita net indebtedness	$81.34	$49.08	$32.26	.....
Pittsburgh: [3]				
Population	550,667	507,009	43,658	8.6
Assessed valuation of property	$749,583,440.00	$487,917,292.00	$261,666,148.00	53.6
Rate of the property tax for city purposes [1]	$19.61	$15.48	$4.13	.....
Per capita levy of property taxes	$26.69	$14.89	$11.80	.....
Per capita net indebtedness	$82.72	$54.76	$27.96	.....
Detroit:				
Population	503,445	325,563	177,882	54.6
Assessed valuation of property	$452,255,100.00	$275,542,350.00	$176,712,750.00	64.1
Rate of the property tax for city purposes [1]	$21.40	$14.70	$6.70	.....
Per capita levy of property taxes	$19.22	$12.44	$6.78	.....
Per capita net indebtedness	$18.09	$18.94	[2] $0.85	.....

[1] Per $1,000 of assessed valuation. [2] Decrease. [3] In 1905 includes Allegheny.

APPENDIX I.

MOBILITY OF LABOR.

An investigation conducted during the closing weeks of the school year 1912–13, by the Russell Sage Foundation, in 78 American city school systems, showed that in only 16 per cent of the 22,027 cases of boys aged 13 were the fathers natives of the city in which they were living; in 24 per cent of the cases the fathers were born in the same State in which they were living, but not in the same city; in 20 per cent of the cases the fathers were born in other States than that in which they were living; and in 40 per cent of the cases they were foreign born. Of the boys themselves only 58 per cent were natives of the city in which they were attending school; 19 per cent were natives of the State but not of the city; 14 per cent were natives of other States, and 9 per cent were natives of foreign countries. In only one of the 78 cities did the proportion of fathers born in the city in which they were living amount to one-half, namely, Charleston, S. C., in which the proportion amounted to 51 per cent. In 69 cities out of 76 for which this data are given less than one-third of the fathers were natives of the cities in which they were living. The proportion for Bridgeport, Conn., Council Bluffs, Iowa, Kalamazoo, Mich., Lansing, Mich., New Bedford, Mass., South Bend, Ind., and Springfield, Mo., was only 9 per cent; for Chicopee, Mass., and Flint, Mich., only 8 per cent; for Birmingham, Ala., Columbia, S. C., Holyoke, Mass., New Britain, Conn., and Woonsocket, R. I., only 7 per cent; for Chattanooga, Tenn., and Waterloo (west side), Iowa, only 5 per cent; for Pueblo, Colo., Lincoln, Nebr., San Diego, Cal., and Superior, Wis., only 1 to 3 per cent. While the data upon which these percentages are figured are insufficient to determine accurately in the case of any one of the cities what proportion of the workers are natives of the city, the proportions may be taken as generally significant of the extent to which in cities widely distributed geographically and industrially dissimilar, the population is, so far as the local community is concerned, made up of migrants who have been attracted into the city from other communities. The maximum number of cases considered for any one city was 897 for Paterson, N. J., in which the proportion of fathers who were natives of the city was 17 per cent. In five of the 78 cities less than 100 cases were considered. But the cases seem to have been selected in each city without reference to the occupation, or to any condition which would tend to affect in any definite way the proportion of natives of the local community. It may be noted that so far as regards the proportion born in States other than that in which they were living (19 per cent), the returns of the Thirteenth Census give the same proportion for the total urban population of the country. According to the census, of the total population living in communities of 2,500 inhabitants or over, only 57.3 per cent were natives of the State in which they were living in 1910; 19.3 per cent were natives of other States, and 22.9 per cent were foreign born. Even of the rural population only 74.5 per cent were natives of the States in which they were living, the proportion born in other States, 17.6 per cent, being very nearly as high as for the urban population, while the proportion foreign born, 7.6 per cent, was much smaller for the rural than it was for the urban population. According to the census, of the native population of Los Angeles, Cal., 73.9 per cent were born outside of California; the corresponding percentage for Birmingham, Ala., was 32.3 per cent; for San Francisco, Cal., 31.7; for Denver, Colo., 67.1; for Wilmington, Del., 32.9; for Jacksonville, Fla., 55.7; for Atlanta, Ga., 20.9; for Savannah, Ga., 31.8; for Chicago, Ill., 26.5; for Indianapolis, Ind., 29.7; for Des Moines, Iowa, 35.1; for Kansas City, Kans., 56.8; for Louisville, Ky., 18.1; for New Orleans, La., 12.2; for Baltimore, Md., 14.1; for Boston, Mass., 18.2; for Detroit, Mich., 19.6; for Duluth, Minn., 40 3; for Kansas City, Mo., 49.6; for Omaha, Nebr., 52.7; for Manchester, N. H., 22.6; for Newark, N. J., 21.9; for New York City, 12.9; for Cincinnati, Cleveland, and Columbus, Ohio, about 18; for Oklahoma City, 84.7; for Portland, Oreg, 66.8; for Philadelphia, 15.5; for Providence, R. I., 27.1; for Charleston, S. C., 6.3; for Memphis, Tenn., 48.7; for Nashville, Tenn., 14.2; for Dallas, Tex., 38.8; for Salt Lake

City, 35.5; for Norfolk, Va., 31.7; for Richmond, Va., 10.7; for Seattle, Wash., 75.2; for Milwaukee, 13.6. In only 13 of the 109 cities of 50,000 or more inhabitants in the United States was the proportion born outside of the State of residence for the native population less than 10 per cent; and in 13 of the cities half or more of the native population was born in States other than that in which the city was located. These cities of 50,000 or more inhabitants embrace the principal industrial centers of the United States and the data relating to them indicate the mobility of our industrial population.

It has been pointed out that "when we study industries and occupations in a number of localities, we find that some of the ways by which men and women earn their livings are common to all of them, while others engage many workers in some places and few in other places." The mobility of labor is in the United States [1] very great, both in those occupations which are common to all communities and States and in those industries and occupations which are localized in a few industrial centers In the one case the workers are distributed over the country more or less in proportion to population and migrate freely from State to State; in the other case labor is attracted from all sections of the country into certain industrial centers.

[1] Constant and Variable Occupations and their Bearing on Problems of Vocational Education (Leonard P. Ayers, Russell Sage Foundation).

APPENDIX J.

BIBLIOGRAPHY.

SELECTED BIBLIOGRAPHIES ON VOCATIONAL EDUCATION AND RELATED TOPICS.

Columbia University. Teachers' College. School of industrial arts. Annotated list of books relating to industrial arts and industrial education. New York City, Teachers' College, Columbia University, 1911. 50 p. (Technical education bulletin, No. 6.)

Meyer, Ernest C. Literature on industrial education in Germany. In his industrial education and industrial conditions in Germany. Washington, Government Printing Office, 1905. p. 145-147. (U. S. Department of Commerce and Labor. Bureau of Statistics. Special consular reports, v. 33.)

New York (State) Education Department. Division of trades schools. Schools of agriculture, mechanic arts, and home making. Albany, N. Y., November 1, 1910. 23 p.

Richards, Charles R. Selected bibliography on industrial education. Asbury Park, N. J., Kinmonth press, 1907. 32 p. (National society for the promotion of industrial education. Bulletin No. 2.)

Roden, Carl, and others. A bibliography of vocational and industrial education and vocational guidance. Educational bimonthly (published by board of education, city of Chicago), 7:270-279, February, 1913.

United States Bureau of Education. Bibliography of education in agriculture and home economics. Washington, Government Printing Office, 1912. 62 p. (Its Bulletin, No. 10, 1912.)

United States Bureau of Education. Bibliography of industrial, vocational, and trade education. (Bulletin No. 22, 1913.) Washington, Government Printing Office, 1913.

PUBLICATIONS CONSULTED BY THE COMMISSION.

American Federation of Labor. Industrial Education. Investigation and report of special committee. First edition: 1910.

American Federation of Labor. Industrial Education. Report of committee on industrial education of the American Federation of Labor. Compiled and edited by Chas. H. Winslow. 62d Cong., 2d sess. Senate Document No. 938.

Baron de Hirsch Trade School, New York, N. Y. Reports: 1910, 1911, 1913.

Bawden, William T. The administration of State aid for vocational education. Report of a series of conferences of State officials. Reprint from Vocational Education, March, 1914.

Beverly, Mass. Fourth annual report of the trustees of the Industrial School of the city of Beverly: 1912.

Bills for cooperation with the States in promoting instruction in agriculture, the trades and industries, home economics, etc.:

House bills—

62d Cong., 2d sess., 15458, introduced by Goodwin, Dec. 12, 1911.
62d Cong., 2d sess., 20476, introduced by Goodwin, Feb. 20, 1912.
62d Cong., 2d sess., 23581, introduced by Wilson, Apr. 20, 1912.
63d Cong., 1st sess., 2874, introduced by Goodwin, Apr. 17, 1913.
63d Cong., 2d sess., 6952, introduced by Hobson, July 18, 1913.

Senate bills—

63d Cong., 1st sess., 3, introduced by Page, Apr. 7, 1913.

Bills for cooperation with the States for agricultural extension training:
House bills—
62d Cong., 2d sess., 16842, introduced by Anderson, Jan. 4, 1912.
62d Cong., 3d sess., 22871, ordered printed with amendment of Senate Jan. 31, 1913.
63d Cong., 2d sess., 7951, ordered printed with amendments of Senate Feb. 12, 1914.
Senate bills—
63d Cong., 1st sess., 46, introduced by Bacon (for Smith), Apr. 7, 1913.
63d Cong., 1st sess., 3091, introduced by Smith, Sept. 6, 1913, also amendments.
Senate bill for Agricultural Education:
61st Cong., 2d sess., 4,676, introduced by Dolliver, Jan. 5, 1910.
Senate bill for Waterway Commission and Board of River Development:
63d Cong., 1st sess., 2,739, introduced by Newlands, July 14, 1913.

Birmingham, Alabama. Educational extension courses of the Birmingham public schools, session 1913–14.

Blair, Henry W. National aid to common schools. Speech on the educational bill in the United States Senate, February 9, 1886.

Cameron, Frank K. The theoretical basis for the use of commercial fertilizers. Reprint from the Journal of Industrial and Engineering Chemistry. Vol. 3, No. 3: March, 1911.

Cameron, Frank K. Soil and soil problems. Reprint from the 13th report of the Michigan Academy of Science: 1911.

Canada. Royal Commission on Industrial Training and Technical Education. Report: 1913.

Carnegie Foundation for the Advancement of Teaching. Education in Vermont. Bulletin No. 7: 1914.

Cheney, Howell. The school and the shop from an employee's point of view. An address delivered before the Fourth Annual Convention of the National Society for the Promotion of Industrial Education. Boston: 1910.

Chicago, Ill. Educational opportunities. In a summary prepared by the Council for Library and Museum Extension. Chicago: 1912.

Chicago, Ill. Report on vocational education. In Annual Report of Board of Education: 1912–1913.

City Club of Chicago. Report on vocational training in Chicago and in other cities. 1912.

Committee on Agriculture. Report on agricultural extension work. Report of committee, submitted by Mr. Lever, to accompany H. R. 795. 62d Cong., 2d sess., No. 110.

Committee on Agriculture and Forestry, United States Senate. Hearings on vocational education. Apr. 12–13, 1910. (S. 4675.)

Cooley, Edwin G. Some continuation schools of Europe. Published by the Commercial Club of Chicago: 1912.

Cooley, Edwin G. Vocational education in Europe. Report to the Commercial Club of Chicago: 1912.

Cornell University. Agricultural Experiment Station of the College of Agriculture. Department of Farm Management. Crop yields and prices, and our future food supply. Bulletin 341. Published by the university: February, 1914.

Davenport, Eugene. Education for efficiency. D. C. Heath & Co.: 1909.

Dodd, Alvin E., with the collaboration of C. A. Prosser. What chambers of commerce can do for vocational education. National Society for the Promotion of Industrial Education. New York City: 105 E. 22d St.: 1913.

Eliot, Charles W. Education for efficiency. Riverside Educational Monographs, Houghton-Mifflin Company: 1909.

Eliot, Charles W. The tendency to the concrete and practical in modern education. Riverside Educational Monographs. Houghton-Mifflin Co., 1913.

Evans, Arthur M. Vocational education in Wisconsin. The Commercial Club of Chicago: 1913.

Hebrew Technical Institute, New York, N. Y. Annual Reports: 1913–1914.

Hebrew Technical Institute, New York, N. Y. Catalogue: 1914.

Hodge, George B. Association educational work for men and boys. Association Press, 124 East 28th St., N. Y.: 1912.

Illinois. State Senate Bills: 48 General Assembly, 1913. Vocational and prevocational education; senate bill No. 147, introduced by Magill. Vocational education. Senate bill No. 411, introduced by Barr.

Illinois Educational Commission, The. Report to the Forty-Seventh General Assembly of the State of Illinois: 1911.

Indiana. Department of Public Instruction. Regulations governing vocational agricultural schools and departments in Indiana. Bulletin No. 7, Vocational Series No. 5, Indianapolis: 1914.

Indiana. Department of Public Instruction. Vocational education in Indiana. Information relative to the establishment and administration of State-aided vocational schools. Bulletin No. 6, Vocational Series No. 4. Indianapolis: 1914.

Indiana. Report of Commissioner on Industrial and Agricultural Education: December, 1912.

Indiana. School laws enacted by the General Assembly of 1913. Arranged by the State Department of Public Instruction. Indianapolis: 1913.

International Correspondence Schools. Examples of success by correspondence training. By Thomas J. Foster. Scranton, Pa.: 1912.

Kerschesteiner, George. The trade continuation schools of Munich. Bulletin No. 14. National Society for the Promotion of Industrial Education: 1911.

Maine. Laws of Maine relating to public schools: 1913.

Maine. Report of Committee on Industrial Education: 1910.

Massachusetts. Board of Education. Educational legislation of 1913. Bulletin, 1913, No. 8, Boston: 1913.

Massachusetts. Board of Education. Part-time schooling: 1910.

Massachusetts. Board of Education. The needs and possibilities of part-time education: 1913.

Massachusetts. Commission on Immigration. Report on the problem of immigration in Massachusetts: 1914.

Massachusetts. Report of Commission on Industrial and Technical Education: 1906.

Mayo, A. D. National aid to education. Address before the American School of Science Association. Saratoga: 1886.

Miles, H. E., and Frank Duffy. How shall the obligation to provide industrial education be met? The viewpoint of the manufacturer and the employer and the viewpoint of organized labor. Extract of addresses delivered at the Fifth Annual Convention of the National Society for the Promotion of Industrial Education. Cincinnati, O., Nov. 2, 1911.

Minneapolis, Minn. A vocational survey of Minneapolis. Published by the Minneapolis Teachers' Club: 1913.

Monroe, Paul (editor). Cyclopedia of Education. The MacMillan Co.: 1913.

Montana. School laws of the State of Montana. Compiled at the office of the Superintendent of Public Instruction: 1913.

Mosby, Thomas Speed. Causes and cures of crime. Published by C. V. Mosby Co., St. Louis: 1913.

Murray, William H. Speech on vocational, or agricultural and mechanical education in the House of Representatives, Dec. 11, 1913. 62d Cong.

National Business, The. Issue of April 15, 1914. Vol. 2, No. 4.

National Manufacturers Association. Proceedings of Eighteenth Annual Convention: 1912; ditto 1913.

National Society for the Promotion of Industrial Education. Principles and policies that should underlie State legislation for a State system of vocational education. Approved by the board of managers of the society. February, 1913.

National Society for the Promotion of Industrial Education. The selection and training teachers for State-aided industrial schools for boys and men. Special Report. Bulletin No. 19, 1914.

National Society for the Promotion of Industrial Education. Proceedings of the seventh annual meeting, Grand Rapids, Mich., Oct. 23–25, 1913. Bulletin No. 18.

National Women's Trade Union League. Proceedings of Fourth Biennial Convention: St. Louis, June, 1913.

New Bedford, Mass. Annual Report of the School Committee and Board of Trustees of the Independent Industrial School: 1910.

New York, N. Y. Interim Report. Committee on School Inquiry of the Board of Estimate and Apportionment. City of New York: 1911–1912.

New York, N. Y. Report on the Manhattan Trade School for Girls and Vocational School for Boys. In Annual Report of City Superintendent: 1912–1913.

Ohio. A cooperative field study. Report of the Ohio State Survey Commission: 1914.

Page, Carroll S. Speech on vocational education in the United States Senate. June 5, 1912, 62d Cong., 2d sess., S. Document No. 845.

Pratt Institute, Brooklyn, N. Y. School of Science and Technology. Annual Report: 1908–9.

Pratt Institute, Brooklyn, N. Y. School of Science and Technology. Alumni Directory: 1914.

Prosser, Charles A. The meaning of industrial education. Reprint from Vocational Education for May, 1913.

Prosser, Charles A. Facilities for industrial education. Reprint from Proceedings of the National Education Association at Chicago, Ill., July, 1912.

Prosser, Charles A. The training of the factory worker through industrial education. An address before the Fifth Annual Convention of the National Society for the Promotion of Industrial Education. Cincinnati, O., Nov. 2–4, 1911.

Prosser, Charles A. A few definite results secured during the year by the National Society for the Promotion of Industrial Education, New York City, 105 E. 22d St.

Prosser, Charles A. A brief statement on industrial education and the work of the National Society for the Promotion of Industrial Education. New York City, 105 E. 22d St., 1914.

Redfield, William C. The new industrial day. The Century Co., 1912.

Redfield, William C. A plea for practical education; excerpt from recent addresses. Reprint from Vocational Education for September, 1913.

Richards, Charles R. How shall we study the industries for the purposes of vocational education? Reprint from Vocational Education, January, 1914.

Robinson, Theodore W. The need of vocational education. American Iron and Steel Institute, Chicago: October 24, 1913.

Rochester, N. Y. Report on vocational education. In report of board of education: 1913.

Russell Sage Foundation:

- Ayres, Leonard P. A comparative study of public-school systems in the 48 States. No. 124.
- Ayres, Leonard P. Constant and variable occupations and their bearings on problems of vocational education. E. 136.
- Ayres, Leonard P. Laggards in our schools. Survey Association, Inc.
- Ayres, Leonard P. Some conditions affecting problems of industrial education in 78 American school systems. E. 135.

Special Libraries Association. Papers presented at the annual meeting of the Special Libraries Association. Washington, D. C., May, 1914. Published by the Special Libraries Association. Vol. 5, No. 6: June, 1914.

Swearingen, H. H. The Caucasional creed. 1914.

Swift, Fletcher Harper. Public permanent common school funds in the United States, 1795–1905. Henry Holt & Co., 1911.

United States. Bureau of the Census. Wealth, debt, and taxation. Special report, 1907.

United States. Bureau of the Census. Financial statistics of cities having a population of over 30,000: 1905. Ditto: 1912. Bulletin 178.

United States. Bureau of the Census. Report of the Twelfth Census of the United States, 1900. Occupations. Special report, 1904.

United States. Bureau of the Census. Mortality statistics: 1911. Bulletin 112.

United States. Bureau of the Census. Report of the Thirteenth Census of the United States, 1910. Population: Agriculture: Manufactures: Mining. Abstract of the Thirteenth Census.

United States. Bureau of Education. Annual Report: 1867–8; 1876; 1880; 1892–3; 1896–7; 1906; 1908; 1909; 1910; 1911; 1912.

United States Bureau of Education:

Bulletin, 1907: No. 1. The continuation school in the United States. By Arthur J. Jones.

Bulletin, 1907: No. 2. Agricultural education. Including nature study and school gardens. James Ralph Jewell.

Bulletin, 1908. No. 1. On the training of persons to teach agriculture in the public schools. By Liberty Hyde Bailey.

Bulletin, 1908: No. 6. The apprenticeship system in its relation to industrial education. By Carroll D. Wright.

Bulletin, 1911: No. 2. Opportunities for graduate study in the United States, by A. C. Monahan. Supplement to Bulletin, 1911: No. 2. Undergraduate or collegiate courses in agriculture in the State colleges of agriculture in the United States. By A. C. Monahan.

Bulletin, 1912: No. 1. A course of study for the preparation of rural-school teachers.

Bulletin, 1912: No. 6. Agricultural education in secondary schools. Papers read at the Second Annual Meeting of the American Association for the Advancement of Agricultural Teaching, Columbus, Ohio. Nov. 14, 1911.

Bulletin, 1912: No. 10. Biography of education in agriculture and home economics.

Bulletin, 1912: No. 18. Teaching language through agriculture and domestic science. By M. A. Leiper.

Bulletin, 1912: No. 20. The readjustment of a rural high school to the needs of the community. By H. A. Brown.

Bulletin, 1912: No. 28. Cultivating the school grounds in Wake County, North Carolina. By Zebulon Judd.

Bulletin, 1913: No. 2. Training courses for rural teachers. By A. C. Monahan and Robert H. Wright.

Bulletin, 1913: No. 6. Agricultural instruction in high school. By C. H. Robinson and F. B. Jenks.

Bulletin, 1913: No. 9. Consular reports on continuation schools in Prussia.

Bulletin, 1913: No. 14. Agricultural instruction in secondary schools. Papers read at the third annual meeting of the American Association for the Advancement of Agricultural Teaching.

Bulletin, 1913: No. 17. A trade school for girls. A preliminary investigation in a typical manufacturing city, Worcester, Mass. By the research department of the Women's Educational and Industrial Union of Boston, under the direction of Susan M. Kingsbury and May Allinson.

Bulletin, 1913: No. 22. Bibliography of industrial, vocational, and trade education.

Bulletin, 1913: No. 25. Industrial education in Columbus, Ga. By Roland B. Daniel.

Bulletin, 1913: No. 32. An educational survey of a suburban and rural country, Montgomery County, Md. By H. N. Morse and A. C. Monahan.

Bulletin, 1913: No. 39. The elementary industrial school of Cleveland, Ohio. By W. N. Hailmann.

Bulletin, 1913: No. 47. Teaching material in Government publications. Compiled by Frederick K. Noyes.

Bulletin, 1913: No. 49. The Farragut School. A Tennessee country life high school. By A. C. Monahan and Adams Phillips.

Bulletin, 1913: No. 50. The Fitchburg plan of cooperative industrial education. By Matthew R. McCann.

Bulletin, 1913: No. 51. Education of the immigrant. Abstract of papers read at a public conference under the auspices of the New York-New Jersey committee of the North American Civic League for Immigrants. Held at New York City May 16 and 17, 1913.

Bulletin, 1913: No. 54. Consular reports on industrial education in Germany.

Bulletin, 1913: No. 56. Some suggestive features of the Swiss school system. By William Knox Tate.

United States Bureau of Education—Concluded.

Bulletin, 1913: No. 58. The educational system of rural Denmark: By Harold W. Foght.

Bulletin, 1914: No. 4. The school and the start in life. A study of the relation between school and employment in England, Scotland, and Germany. By Meyer Bloomfield.

Bulletin, 1914: No. 5. The folk high schools of Denmark. By L. L. Friend.

Bulletin, 1914: No. 6. The Massachusetts home-project plan of vocational agricultural education. By R. W. Stimson.

United States. Bureau of Foreign and Domestic Commerce. Commerce and navigation of the United States: 1912.

United States. Bureau of Foreign and Domestic Commerce. Monthly summary of commerce and finance. February, 1914.

United States. Bureau of Foreign and Domestic Commerce. Statistical record of the progress of the United States, 1800-1913, and monetary, commercial, and financial statistics of principal countries: 1913.

United States. Bureau of Labor. Trade and technical education in the United States. Seventh annual report: 1904. Ditto: Bulletin 54: 1904.

United States. Bureau of Labor. Industrial education. Twenty-fifth annual report, 1910.

United States. Bureau of Navigation. The making of a man-o'-warsman. Navy Department: 1913.

United States. Bureau of Soils. The organic constituents of soils. By Oswald Schreiner. Circular No. 74. January 17, 1913.

United States. Commission of Education. Report of the Commissioner of Education for the year ending June 30, 1906. Ditto, 1908.

United States. Commissioner of Labor. Vocational guidance. Part of twenty-fifth annual report of the Commissioner of Labor: 1910.

United States. Navy Department, Washington, D. C. General Order No. 63. Instruction on board ship. December 16, 1913.

United States. Treasury Department. Digest of appropriations for the support of the Government of the United States: 1914.

Webb, Sidney. Grants in aid. Longmans, Green & Co., 1911.

Wilmington, Delaware. Board of education. An outline for art education and industrial training in Wilmington public schools. By Ronald F. Davis, 1914.

Wisconsin. Annual report of the public continuation schools of Wisconsin. Bulletin of the Wisconsin State Board of Industrial Education. No. 7: 1913.

Wisconsin. Report of commissioner upon the plans for the extension of industrial and agricultural training: 1911.

APPENDIX K.

REPLIES TO QUESTIONNAIRES.

INTRODUCTION.

The Commission on Vocational Education, in addition to its study of the subject based on printed material, personal experience, and testimony of witnesses who appeared at the hearings, desired to ascertain at first hand the facts as to what is being done for vocational education in the United States, and as to the attitude toward national grants of the persons most concerned. For this purpose the commission sent questionnaires to all State superintendents of instruction, to superintendents of schools in cities of at least 10,000 inhabitants, to county school superintendents in five rural counties of each State, to certain representative employers of labor, and to all national trade unions affiliated with the American Federation of Labor. The number of questionnaires sent out and the number of responses received is shown in the following statement:

Persons and organizations canvassed.	Number of questionnaires—	
	Sent.	Received.
Total	1,157	814
State superintendents:		
Questionnaire No. 1	48	44
Questionnaire No. 2	48	37
Special inquiry	48	46
City superintendents	599	447
County superintendents	240	154
Employers	70	43
Trade unions	104	[1] 43

[1] In addition to this, 32 letters and telegrams with partial information have been received from trade unions.

It appears from this statement that the response to the commission's inquiries has been surprisingly numerous considering the rather elaborate nature of the questionnaires, the short time allowed for replies, and the arduous regular duties of many of the persons interrogated. This general willingness to take time to cooperate with the commission is in itself a testimony to the widespread interest in the subject of vocational education, and the large percentage of replies justifies the commission in concluding that a representative number of those most vitally interested in the subject of vocational education has been heard from through the questionnaires.

The following statement sums up the results of the investigation in regard to the question of the attitude toward national grants for vocational education:

Replies received from—	Aggregate number.	Attitude toward national grants for vocational education.			
		Favorable.	Unfavorable.	Doubtful.	Not reported.
All sources	763	516	87	2	158
State superintendents	44	34	1	2	7
City superintendents	447	320	55	.....	72
County superintendents	154	88	11	.....	55
Employers	43	29	8	.....	6
Trade unions	75	45	12	.....	18

Two-thirds of the replies received by the commission are favorable to national grants for vocational education; when those who did not report their preference are eliminated the proportion favorable is even greater, six-sevenths of the persons having reported in the affirmative and only one-seventh in the negative. The proportion voting in the negative is the smallest among State superintendents, 1 out of 44 (2 being doubtful), and the greatest among employers, 8 out of 43, but in all cases an overwhelming majority of the persons or organizations heard from are desirous of seeing the Nation contribute to the development of vocational education, and since it is believed the questionnaires have reached a representative number of persons most interested in the matter, the conclusion is fully justified that the verdict of the country as a whole coincides with that rendered by the commission's informants.

The replies received from the different sources will be discussed separately in the following pages.

REPLIES FROM STATE SUPERINTENDENTS OF INSTRUCTION.

The first inquiry submitted to the State superintendents referred to what is actually being done for vocational education for persons over 14 years of age in all-day public schools, in evening schools, and in part-time or continuation schools. While the inquiry was addressed to the State authorities, it referred to the work done for vocational education in the State, not only directly by the State government but also by the county and municipal governments. The inquiry was intended to help the commission obtain an idea of all the agencies at work for vocational education in the different States. It is believed that the superintendents understood the question in this way in nearly all cases, but in one or two cases the replies received were to the effect that the State as such did nothing for vocational education. Such replies were entered in the "Not reported" column.

The replies to the first inquiry are presented in Table 1, page 147, from which a person interested in a given State may find out how the State stands on vocational education. The following is a statistical summary of the data in Table 1:

Number of States making each specified provision for vocational education.

Type of school and character of instruction.	No provision.	Courses in—		Special schools.	Colleges and universities.	Nature of provision not indicated.	Not reported.	Counted more than once.
		High schools.	Grammar schools.					
All day schools:								
Trades and industries	11	12	3	6	1	4	9	2
Commerce	6	23	5	.....	1	3	7	1
Agriculture	2	22	9	5	1	4	7	6
Household arts	3	20	13	3	.....	4	6	5
Evening schools:								
Trades and industries	19	.....	2	3	1	9	10	.....
Commerce	21	1	3	2	1	4	12	.....
Agriculture	25	.....	1	.....	1	5	12	.....
Household arts	19	1	5	1	1	7	11	1
Part-time or continuation schools:								
Trades and industries	23	.....	3	1	.....	7	10	.....
Commerce	28	.....	1	.....	.....	2	13	.....
Agriculture	26	.....	2	1	.....	4	11	.....
Household arts	24	.....	1	1	.....	4	14	.....

The statement shows that courses on vocational subjects are not infrequently given in high schools and grammar schools; that special schools of any sort are rarely available, and that in most of the States very meager provision is made for vocational training.

Another way of presenting the numerical data is attempted in the following statistical summary:

Number of States making provision for various branches of vocational education in different types of schools.

Subject of instruction.	Some type of school—			All-day schools.		
	Provided for.	Not provided for.	Not reported.	Provided for.	Not provided for.	Not reported.
Any subject	40	1	3	40	1	3
Trades and industries	26	8	10	24	11	9
Agriculture	38	1	5	35	2	7
Household arts	37	2	5	35	3	6
Commercial pursuits	32	5	7	31	6	7

Subject of instruction.	Evening schools.			Part-time or continuation schools—		
	Provided for.	Not provided for.	Not reported.	Provided for.	Not provided for.	Not reported.
Any subject	18	18	8	11	23	10
Trades and industries	15	19	10	11	23	10
Agriculture	7	25	12	7	26	11
Household arts	14	19	11	6	24	14
Commercial pursuits	11	21	12	3	28	13

The figures show that in 26 of the 44 States heard from some provision is made for instruction in trades and industries; in 32 States in commercial education; in 38 States in agricultural training; and in 37 States in training in household arts. The most frequent type of provision for vocational education is that offered in courses in all-day schools. Only 18 States have any arrangement by which vocational training in any branch may be obtained in evening schools, and only 11 of the States replying have part-time or continuation schools where vocational training of any kind can be obtained.

To the question whether the State granted any aid to schools for vocational education, 27 States answered in the affirmative, 11 in the negative, while no reports were received from 6 States. The actual returns on this question, together with the kinds of schools for which State aid is given, the amount appropriated, and the conditions imposed by the State are shown in Table 2, page 152. The amounts appropriated are generally not very large and the conditions imposed generally involve the approval of the method of expending the money by the State board of education.

The replies to the question whether the State desires to extend vocational education for trades and industries, for commercial pursuits, for agriculture, and for household arts, are so unanimous that no tabulation is deemed necessary. Practically all the States feel the need of extending their system of vocational education along all lines, and the reasons given for this desire show a deep appreciation of the importance of vocational education to the prosperity of the Commonwealths. Some of these reasons have been quoted verbatim in the body of the report (p. 29), and it suffices to say here that the State superintendents appear to be fully cognizant of the fact that the weak point in the present educational system is that the schools do not lay enough stress on fitting the children for the struggle of existence and on making of them self-supporting and self-reliant citizens of the Republic. The "ornamental" idea of education is still entirely too prevalent in our school system, but the comprehension of this weakness by those who are at the head of the systems in the different States is an encouraging development brought out by this investigation.

The next table (Table, 3 on p. 153) summarizes the attitude of the States toward national grants and presents a digest of the reasons given by the State superintendents for their attitude. As mentioned above, a great majority of the States favor national grants, and the reasons given are, in general, one of two types. A great many of the State superintendents feel that the local communities can not afford to extend vocational education because the existing school system absorbs all the available money. In addition to that, several States feel that appropriations by the Federal Government would add to the prestige of vocational education and would, therefore, make the local authorities and the citizens appreciate more fully the importance of this kind of education, and would encourage the State to do more along that line on their own initiative.

Of the States that are doubtful about the desirability of national grants, Wisconsin gives no special reason for its doubts, but, judging from the superintendent's letter, he feels that the State can probably handle the matter without outside aid, while Utah is doubtful for the opposite reason, namely, it feels that the State can not afford to spend any money on vocational education at all, and that since national grants would probably call for some additional expenditure on the part of the State, the grants might be unwelcome. The only State that is definitely opposed to national grants is Michigan, and the reason given is that the National Government should not interfere with State matters and that, conditions being different in different States, what was useful in one might prove to be harmful in another.

The State superintendent of education for New York has been counted as being in favor of national grants for vocational education, because he states that the State can use national grants effectively, and that national grants would tend to "even up" the educational opportunities offered to the inhabitants of the different States. He adds, however, at the end of his statement that a grave question is raised by the policy of national grants for educational purposes.

The next inquiry made of the State superintendents refers to what the States are doing to train teachers qualified to give instruction in vocational subjects. The results of this inquiry are presented in detail in Table 4, on page 155, and are summarized below.

Provisions made by States for training teachers of vocational subjects.

Subject of instruction.	Number of States making each specified kind of provision for vocational education of teachers.					
	No provision.	Courses in colleges and universities.	Courses in normal schools.	Other provision and character of provision not specified.	Not reported.	Counted more than once.
Any subject	4	20	17	7	12	16
Trades and industries	11	8	11	4	16	6
Commerce	9	8	9	4	20	6
Agriculture	5	17	10	7	15	10
Household arts	5	15	15	4	15	10

There are 4 States in which no provision whatever is made for the training of teachers of vocational subjects; 11 States where no teachers are trained to give instruction in trades and industries; 9 States where teachers of commercial subjects are not being developed; and 5 where no training is provided for teachers of agriculture or household arts. Twenty States have vocational courses for teachers in colleges or universities; 17 States have normal schools with vocational studies, while 12 States make no report on the subject. Of the 37 States having courses in universities or in normal schools, 16 have both of these kinds of provision for training teachers of vocational subjects. The table justifies the statement made by several superintendents that the training of teachers for vocational subjects is a crying need of the present time.

Table 5, on page 157, presents a summary of the States' attitude toward national grants for the training of teachers for vocational schools. The majority of the States heard from are in favor of national grants, and the reasons given are substantially of the same nature as those given in support of national grants for regular vocational schools. There is one additional State that is opposed to national grants, namely, Washington, whose superintendent of schools thinks that the higher institutions of the State are sufficiently qualified to meet the problem without Federal aid.

A special inquiry was sent to all State superintendents in regard to the need of national grants for agricultural education. Each State superintendent was asked which plan he preferred: (1) Grants to be disbursed by State authorities in part payment of the salaries of expert supervisors of agriculture, whose duty it would be to supervise the instruction in agriculture in elementary and high schools in rural districts; or (2) grants to the States to be disbursed by State authorities in part payment of instruction in agriculture and rural high schools to children over 14 years of age. The States were evenly divided on this subject, 22 States favoring plan 1 and 22 States favoring plan 2, while 1 State desired to use the Federal grants for inaugurating both of the plans suggested, and 1 was opposed to any kind of national grants.

Table 6, on page 159, presents the attitude of the States on this matter, together with the reasons given for their attitude. Among those who favored plan 2, several

made mention of the fact that agricultural education should not begin earlier than 14 years of age, and others said that they needed teachers rather than supervisors. On the other hand, those in favor of plan 1 think that it is worth while to begin agricultural education earlier than 14 years of age and that national cooperation will encourage the schools to employ qualified teachers. An objection to plan 2 is found by one of the State superintendents in the fact that it would split the amount of the grant too much.

A second questionnaire was sent out to State superintendents to obtain the judgment of the States as to various details in connection with national grants for vocational education.

In regard to the relation of the amount contributed by the Nation to that contributed by local authorities, 15 States favor equal contributions; 1 State thinks that the Nation should contribute the greater part of the money expended on vocational education; 20 States think that the Nation's contribution should not be as great as that of local authorities; while 1 State does not report its preference in the matter. The great majority of the States believe that the national grants should start with a minimum and gradually increase as the system develops. There is a great difference of opinion in regard to the method of appropriating the money. Fourteen States favor a fixed amount of money, the unexpended balance to be available for use in the following years; 20 States believe that the unused balance should be turned back to the United States Treasury at the end of the year; while 3 States favor a flexible amount of money to be appropriated in accordance with certain local conditions—such, for example, as the amount of money spent for vocational education in the State during the previous year.

As to the basis of allotment of the money between States, there is a considerable difference of opinion. Five States favor total population as a basis; 7 States, population 6 to 21 years of age; 2 States, population 14 to 21 years of age; and 1 State, population 14 years of age or over; while 4 States favor as a basis the number of persons engaged in vocations; 6 States favor as a basis the number of persons attending the schools benefited and 1 the number of teachers employed; 6 other States the amount of money spent on schools in the State; while 5 States have not reported their preference in this matter.

In regard to the basis of allotment of the money to individual schools, 17 States think that it is important to have the method uniform in all States; 15 States think there is no necessity of uniformity; while 5 States have not recorded their preference in this matter. Seven States think that the cost of maintenance of schools should be the basis of the allotment; 2 that the teachers' salaries should be the basis; 3 that the cost of operation should be the standard; while 4 States think that some local condition, such as school population or population engaged in gainful occupations of each locality, should be considered. There are 6 States from which no reports were received in this matter.

In regard to the amount of supervision that the Federal Government should have over the State's method of spending the money appropriated by the Nation, 23 States think that the Federal Government should specify the type of schools in which the money should be used, while 12 States think that the matter should be left in the hands of the State authorities, and 2 failed to report.

A further question is asked as to whether the National Government should prescribe the type of instruction for which national grants shall be used—that is, whether they should be used to encourage instruction in trades and industries, in commerce, in agriculture, or in household arts. Four States favor national control over this matter, while 31 States favor State control, and 2 States did not report.

Twenty-eight States think that the Federal Government should institute some sort of inspection of the manner in which the States expend the national grant, while 7 States hold the opinion that such inspection is unnecessary, and 2 States do not report.

As to the actual form that the grant should take, 16 States think that it should be in the nature of a contribution expended by the State, whereas 12 States think that a reimbursement of the money already expended by the States is preferable, and 9 States express no opinion on this subject.

In this connection the States have also been asked whether they favor national grants for continuation schools whose prime object would be to provide general education for persons who have already gone to work, in order to improve the civic and vocational intelligence of the breadwinners. Twenty-eight States favor such grants. Of this number 9 think that the amount should be included in the appropriation for vocational training, 12 think it should be cared for in a separate bill or separate clause of the same bill, and 7 do not report their preference.

REPLIES FROM CITY SUPERINTENDENTS.

A questionnaire was sent by the commission to city superintendents in all cities of at least 10,000 inhabitants, the number of schedules sent out being 599 and the number returned to the commission, 447. The returns from questionnaires have been tabulated and the results are presented for the total number of cities, for cities of 10,000 to 25,000 inhabitants, for cities of 25,000 to 100,000, and for cities of 100,000 and over.

The first question asked of the city superintendents was what was being done for vocational education for persons over 14 years of age who have not yet gone to work. Separate replies were received for boys and for girls and for each of the three general groups of vocational studies, namely, trades and industries, commercial pursuits, and household arts.

Statistical summary of information obtained from city schedule.

	Number of cities giving each specified reply.			
	Total.	Cities having—		
		10,000 to 25,000 inhabitants.	25,000 to 100,000 inhabitants.	100,000 inhabitants and over.
Aggregate	447	272	136	39
Provisions made by the city for vocational education for persons over 14 years of age who have not yet gone to work:				
In trades and industries for—				
Boys—				
Courses in high schools and grammar schools	272	148	95	29
Special schools	23	5	10	8
Night schools	3	2	.....	1
Part-time schools	3	2	1	.....
Nothing	137	104	31	2
Not reported	23	16	4	3
Counted more than once	14	5	5	4
Girls—				
Courses in high schools and grammar schools	194	112	60	22
Special schools	17	5	6	6
Night schools	2	1	.....	1
Part-time schools	4	4	.....	.....
Nothing	127	82	42	3
Not reported	103	68	28	7
In commercial education for—				
Boys—				
Courses in high schools and grammar schools	389	228	123	38
Night schools	2	2	.....	.....
Nothing	48	38	9	1
Not reported	12	8	4	.....
Counted more than once	4	4	.....	.....
Girls—				
Courses in high schools and grammar schools	384	227	122	35
Continuation schools and night schools	4	2	1	1
Nothing	42	31	10	1
Not reported	18	12	3	3
Counted more than once	1	.....	.....	1
In household arts—				
Courses in high schools and grammar schools	334	187	114	33
Continuation schools and night schools	4	1	1	2
Nothing	88	70	14	4
Not reported	21	14	7	.....
Provisions made by the city for vocational education for persons over 14 years of age who have already gone to work:				
In trades and industries for—				
Boys—				
Continuation schools	11	2	5	4
Evening schools	155	60	64	31
Part-time schools	46	18	18	10
Nothing	244	182	55	7
Not reported	28	20	8	.....
Counted more than once	37	10	14	13
Girls—				
Continuation schools	10	2	5	3
Evening schools	111	42	44	25
Part-time schools	33	14	12	7
Nothing	247	176	63	8
Not reported	71	44	24	3
Counted more than once	25	6	12	7

Statistical summary of information obtained from city schedule—Continued.

	Number of cities giving each specified reply.			
	Total.	Cities having—		
		10,000 to 25,000 inhabitants.	25,000 to 100 000 inhabitants.	100,000 inhabitants and over.
Provisions made by the city for vocational education for persons over 14 years of age who have already gone to work—Concluded.				
In commercial education for—				
Boys—				
Vocational schools	1	1	.....	.....
Continuation schools	8	3	3	2
Evening schools	176	74	69	33
Part-time schools	38	20	14	4
Nothing	196	146	47	3
Not reported	50	36	13	1
Counted more than once	22	8	10	4
Girls—				
Evening schools	165	66	67	32
Part-time schools	36	18	13	5
Nothing	205	153	49	3
Not reported	52	36	14	2
Continuation schools	7	3	3	1
Counted more than once	18	4	10	4
In household arts for—				
Girls—				
Continuation schools	9	2	5	2
Part-time schools	42	25	11	6
Evening schools	115	44	44	27
Nothing	243	171	65	7
Not reported	57	38	18	1
Counted more than once	19	8	7	4
Regulations with regard to children going to work:				
Are the children required to secure a permit or certificate before going to work?—				
Yes	383	232	118	33
No	50	35	13	2
Not reported	13	5	5	3
If under 16 years	1	.....	.....	1
Minimum age at which a certificate is granted—				
12 years	19	13	3	3
14 years	325	193	103	29
15 years	30	18	8	4
16 years	15	10	5	.....
No certificate required	45	32	12	1
Not reported	13	6	5	2
Attitude toward part-time continuation classes for the general education of children between 14 and 16 years of age who are employed:				
Favorable	384	222	125	37
Unfavorable	33	28	5	.....
Not reported	30	22	6	2
Attitude toward making such classes compulsory:				
Favorable	316	191	96	29
Unfavorable	73	43	25	5
Not reported	58	38	15	5
Attitude toward part-time or continuation classes for vocational education of workers 14 years of age and over in—				
Trades and industries—				
Favorable	365	219	112	34
Unfavorable	26	17	9	.....
Not reported	56	36	15	5
Commercial pursuits—				
Favorable	349	211	104	34
Unfavorable	26	17	9	.....
Not reported	72	44	23	5
Household arts—				
Favorable	369	220	114	35
Unfavorable	26	21	5	.....
Not reported	52	31	17	4
Attitude toward making such classes compulsory:				
Favorable	283	169	85	29
Unfavorable	96	57	36	3
Not reported	68	46	15	7
Adequacy of school budget for the demands of general education:				
Sufficient	189	128	52	9
Insufficient	248	140	81	27
Not reported	10	4	3	3

Statistical summary of information obtained from city schedule—Concluded.

	Number of cities giving each specified reply.			
	Total.	Cities having—		
		10,000 to 25,000 inhabitants.	25,000 to 100,000 inhabitants.	100,000 inhabitants and over.
Adequacy of funds for the development of vocational education:				
Sufficient	70	48	20	2
Insufficient	359	213	112	34
Not reported	18	11	4	3
Attitude toward national grants for—				
Vocational education of those who have not yet gone to work in—				
Trades and industries—				
Favorable	276	162	84	30
Unfavorable	80	51	26	3
Not reported	91	59	26	6
Commercial pursuits—				
Favorable	165	102	47	16
Unfavorable	125	78	40	7
Not reported	157	92	49	16
Household arts—				
Favorable	210	134	56	20
Unfavorable	96	53	37	6
Not reported	141	85	43	13
Vocational education of those who have already gone to work in—				
Any type of school—				
Favorable	320	193	97	30
Unfavorable	55	34	18	3
Not reported	72	45	21	6
Part-time trade extension schools and classes—				
Favorable	234	128	80	26
Unfavorable	82	56	22	4
Not reported	131	88	34	9
Part-time preparatory schools or classes—				
Favorable	225	123	77	25
Unfavorable	82	55	23	4
Not reported	140	94	36	10
Evening trade extension schools or classes—				
Favorable	212	114	72	26
Unfavorable	92	61	27	4
Not reported	143	97	37	9
Evening trade preparatory schools or classes—				
Favorable	186	102	61	23
Unfavorable	97	61	30	6
Not reported	164	109	45	10
General education of the workers in—				
Continuation schools or classes—				
Favorable	304	176	90	29
Unfavorable	87	57	25	5
Not reported	56	39	12	5
Evening schools—				
Favorable	197	120	63	14
Unfavorable	115	64	36	15
Not reported	135	88	37	10
Difficulty in securing teachers of vocational subjects:				
Cities whose supply is—				
Sufficient	111	69	35	7
Insufficient	239	128	83	28
Not reported	97	75	18	4
Attitude toward National grants for training teachers of vocational studies in—				
Trades and industries—				
Favorable	283	168	89	26
Unfavorable	85	53	26	6
Not reported	79	51	21	7
Commercial pursuits—				
Favorable	202	126	60	16
Unfavorable	135	77	47	11
Not reported	110	69	29	12
Household arts—				
Favorable	287	179	86	22
Unfavorable	69	36	25	8
Not reported	91	57	25	9

We find from the table that 272 cities out of 447 replying had courses in trades and industries in grammar schools or high schools; 29 cities had some other provision for this kind of education; 137 cities had no provision whatever, and 23 cities made no report. The number of cities that had no provision for vocational training in trades and industries for boys is significant, and it is worth noting that in the smaller cities, those of 10,000 to 25,000 inhabitants, more than one-third report an absence of facilities for this kind of education. It should be remembered in this connection that the fact that courses are given in the high schools or grammar schools does not indicate that there is a great amount of vocational education offered to the boys. A class in any one of the city's regular schools would put that city in the column of having made provision for vocational education without any reference to the adequacy of the provision. In the case of girls the data are substantially similar to those for boys.

All but 48 cities, ignoring the 12 for which there is no report, have some provision in the regular school system for a certain amount of training in commerce for boys and in practically the same number of cases some provision is made for girls also. There is a larger number of cities that have not incorporated any training in household arts into their school systems, 88 cities reporting no facilities for this type of work.

Referring to the data on boys desiring to study trades and industries, 244 cities have made no provision whatever for those of the boys who have left the regular school course and have been obliged to earn their own livelihood. Eleven cities have reported continuation schools, 155 evening schools, 46 part-time schools, while 28 have made no report. It is quite apparent that the provisions made for the training of boys in trades and industries outside of the regular school system is much less adequate in towns of 10,000 to 25,000 inhabitants than in the larger cities. The situation as to girls is not sufficiently different to be worthy of note. In commercial education for persons at work the provisions made are somewhat more general than those in trades and industries, the number reporting no such education being 196 for boys and 205 for girls. The large majority of the cities reporting some provision for commercial education for this class of young people have evening schools, the number having part-time or continuation schools being very small. Household arts fare even worse than the other two branches of vocational study, 243 cities having no provision for such training whatever that can be made use of by young women who have left school; 115 have evening classes and 51 have part-time or continuation classes.

The material collected shows that 383 cities require certificates from children before they can go to work, while 50 have no such requirement and 13 make no report. The age at which the certificate is generally granted is 14 years, although in 19 cities children can go to work at 12 years, in 30 cities 15, and in 15 cities 16 years. This does not, of course, give an adequate idea of how the provision is enforced, and whether it actually reaches the people affected by it. While the commission's questionnaire contained an inquiry as to the enforcement of the law, the material obtained was so fragmentary that it was decided that it could not be profitably used.

When we pass from the study of what is actually being done to what the school superintendents desire to do, we find a very strong desire on the part of city and town superintendents to expand in the direction of vocational education, and also in the direction of general education for children between 14 and 16 years of age who have left school and have gone to work. Thus, 384 superintendents say that they want to encourage a system of continuation schools for this class of children, and 316 of them think that the schools should be compulsory. The great majority of school superintendents are also in favor of continuation schools in trades and industries, in commercial pursuits, and in household arts, and 283 of them think that such schools should be compulsory, against 96 who think otherwise, and 68 who fail to report on that subject.

There is also a decided preponderance of opinion in favor of national grants in aid of continuation schools for general education, 304 favoring such grants, 87 being opposed to them, and 56 not reporting. For vocational education the preponderance of affirmative replies is even greater, 320 favoring, 55 opposing, and 72 expressing no opinion.

The city superintendents have been asked whether their school budget is sufficient at the present time to meet the needs of general education in the community; 189 state that the funds are sufficient, 248 state that they are insufficient, and 10 do not reply. It is perhaps somewhat significant of the greater realization of the importance of education on the part of superintendents of large cities, that in cities of 100,000 inhabitants and over those who thought their funds were insufficient were as three to

one to those who were content, while the proportion for the smaller cities was considerably less. In regard to vocational education, 359 out of the 447 said that there were no available funds to develop this type of school activity, while only 70 thought they could find the funds, and 18 did not report.

On the other hand, there is no unanimity on the part of city superintendents in regard to national grants for the vocational education of children who have not yet gone to work. Eighty cities think it is not necessary for instruction in trades and industries, 125 think it is not needed for instruction in commercial pursuits, and 96 oppose national grants for instruction in household arts. The opposition to these grants is fairly evenly divided between cities of different sizes and is in all cases in the minority, the number making no report on this item being rather large. It is not unfair to say as a result of this inquiry that national grants for vocational education would be welcome in the great majority of the cities heard from.

The cities stand substantially in the same way regarding national grants for vocational education for children who have already gone to work.

It is somewhat difficult to say which of the different types of schools the superintendents prefer. The questionnaire distinguished part time trade extension schools, part time trade preparatory schools, general education or improvement schools, evening trade extension schools, evening trade preparatory schools, and evening general education schools. It is clear from a study of the returns that the superintendents did not analyze the matter in any great detail and recorded their general favorable or unfavorable attitude toward national grants rather than their preference for this or that particular type of school.

A question was asked the city superintendents with regard to the difficulty of securing the right kind of teachers for vocational subjects. One hundred and eleven cities of the 447 heard from said that they had no great difficulty, 239 that they experienced considerable difficulty, while 97 did not reply. The difficulty seems to have been greater in large cities, which presumably indicates that the standard set by superintendents of schools in large cities are more exacting and that consequently they find more difficulty in obtaining teachers who meet the requirements.

As to national grants for the purpose of encouraging the State to train teachers for vocational schools, most of the cities favor them for all three types of vocational study, while those who are opposed are presumably actuated by a generally adverse attitude toward Federal aid.

The result of the canvass of city superintendents may perhaps be summed up in the statement that beginnings are made in many cities for a certain amount of vocational education in the regular school system, that progress is much further advanced in regular schools for young persons who are still in attendance than in evening or continuation schools, or part time day schools, for those who are at work. The large cities are somewhat better provided for than the smaller. The city superintendents stand, roughly speaking, three to one in favor of national grants for vocational education of all types.

REPLIES FROM COUNTY SUPERINTENDENTS.

The commission sent out questionnaires to five rural counties in each State. The questionnaires were sent to the State superintendents of instruction with the request that they be forwarded to five school superintendents in typical rural counties of their States. The total number sent out was thus 240, and the number received is 154, or about 64 per cent.[1] The main facts ascertained from the county superintendents are presented in the following statistical statement:

[1] In one case the State superintendent had one county schedule filled out by a person on his staff familiar with rural conditions and submitted that one schedule for the State.

Statistical summary of information obtained from the county schedules.

	Number of counties making each specified reply.		
	Total.	East of Mississippi.	West of Mississippi.
Total number of schedules received	154	89	65
Provisions made for vocational education in rural schools in—			
Agriculture for boys over 14 who are in schools:			
Nothing	23	9	14
Courses in public and high schools	85	51	34
Courses in special schools	10	6	4
Evening courses	1	1	.....
Corn clubs, etc	30	12	18
County contests	11	6	5
Counted more than once	26	16	10
Agriculture for boys who have left school and gone to work on the farm—			
Nothing	69	40	29
Special instruction on farms	9	6	3
Special courses	7	1	6
Evening courses	3	3	.....
Corn clubs, etc	48	28	20
County contests	14	7	7
Farmers Institute faculty	10	2	8
Cooperation with county schools	7	6	1
Counted more than once	13	7	9
Household arts for girls over 14 who are in school—			
Nothing	35	21	14
Courses in public and high schools	89	49	40
Special schools	6	4	2
Clubs	27	17	10
County contests	11	6	5
Little teaching of cooking and sewing	3	1	2
Voluntary work	3	1	2
Not reported	1	.....	1
Counted more than once	21	10	11
Household arts for girls over 14 who have left school and are working in the home—			
Nothing	87	58	29
Special schools	7	2	5
Clubs, etc	42	24	18
County contests	10	2	8
Farmers Institute	2	.....	2
Cooperation with county schools	6	3	3
Not reported	3	1	2
Counted more than once	3	1	2
Provisions made for vocational education in agriculture and household arts for the adult workers on the farm and in the home in—			
Agriculture:			
Provided for	44	24	20
Not provided for	107	62	45
Not reported	3	3	.....
Household arts:			
Provided for	33	18	15
Not provided for	119	67	52
Not reported	2	2	.....
Does the county provide any public secondary schools of agriculture open to all persons in the county, whose purpose is to fit for profitable employment on farm?			
Yes	38	25	13
No	115	63	52
Not reported	1	1	.....
Does the county provide any part-time education in agriculture where—			
Pupils living on the farm receive instruction in agriculture directly coordinating with daily work on the farm?			
Yes	42	26	16
No	110	63	47
Not reported	2	.....	2
Winter courses are given in agriculture supplemented by supervision of and assistance in the practical work of the boys on the farm in the summer?			
Yes	42	28	14
No	105	58	47
Not reported	7	3	4
Does the county provide any part-time instruction in household arts?			
Yes	37	25	12
No	114	62	52
Not reported	3	2	1

Statistical summary of information obtained from the county schedules—Concluded.

	Number of counties making each specified reply.		
	Total.	East of Mississippi.	West of Mississippi.
Is there a tendency for country boys to leave for the city?			
Yes	120	75	45
No	32	12	20
Not reported	2	2	.....
Are boys who leave the country prepared to enter skilled occupations?			
Yes	2	1	1
No	147	86	61
Not reported	5	3	2
Do teachers avail themselves of opportunities to obtain material and information from State or Nation?			
Yes	114	64	50
No	37	23	14
Not reported	3	2	1
Attitude toward national grants in addition to those in Lever bill:			
Favorable	88	51	37
Unfavorable	11	9	2
Not reported	55	30	25
Do the agricultural colleges prepare teachers adequately trained for teaching agriculture and household arts in rural schools?			
Yes	77	39	38
No	55	39	16
Not reported	22	11	11
Adequacy of funds to carry out vocational education program:			
Adequate	16	11	5
Inadequate	129	74	55
Not reported	9	3	6

The first question on the schedule refers to what is done in the county in the way of agricultural education for boys over 14 years of age who are in school. The table shows that there are 23 counties in which nothing whatever is done in the way of agricultural education for this class of boys; in 85 counties there is provision for courses in grammar or high schools treating with agricultural subjects. In 10 counties there are special classes. In 50, corn clubs and other similar organizations exist; 11 counties had county contests to encourage boys in agricultural activities and only 1 county reported evening courses. The figures seem to indicate that there is less agricultural education available in States west of the Mississippi than in those east of that river, since 14 counties west of the Mississippi are reported as doing nothing at all and only 34 offer courses in grammar schools or high schools.

The next inquiry, which refers to what is being done for boys who have left school and gone to work on the farm, reveals a still more inadequate provision for agricultural training. Sixty-nine counties out of 154 reporting had absolutely nothing for the boys after they leave school, 48 counties had corn clubs and other things of that sort for the boys, while there are scattered numbers of counties doing other things, none of which reach a sufficient number of country boys to be worthy of being considered important developments. There is very little difference between the East and the West in this respect. The country boy, when he leaves school, has practically no way offered to him to improve his ability to make farming more profitable. It is not surprising, under the circumstances, that 120 counties report a continuing tendency on the part of country boys to seek work in cities and towns.

The principal reasons given by county superintendents for this tendency on the part of the boys to leave the rural districts for the cities are given below:

Reasons given by county superintendents for tendency on the part of country boys to go to the city.	Number of counties giving each reason.
Social opportunities offered by city	83
Better financial opportunities offered by city	47
Lack of agricultural education	47
Educational advantages of cities	30
Hard work on farm	27
Education in schools is based on city ideas	14
Lack of modern conveniences on farms	14
Lack of realization of dignity of labor on farm	7
High price of land	6
Greater variety of employment in city	8
Unfavorable example set by parents	5
Bad roads	5
Failure of parents to pay for work of children	4
Unattractive homes	2
Poor transportation facilities	2
Lack of cooperation among farmers	1
High rate of interest on loans	1
No report	12
Total	315
Counted more than once	195
Number reporting tendency	120
Total number of schedules	154

The most important reasons given for this desertion is lack of profit in the farming business, mentioned in 47 counties and lack of agricultural education, mentioned in 47. These two reasons are practically both reflections of the fact that agricultural education is not sufficiently provided for, and it is therefore a fair statement that in two-thirds of the counties this condition was considered a cause of the trend cityward. The lack of social opportunities was mentioned in 83 counties and the lack of educational advantages, which is perhaps another way of referring to the first question, is mentioned in 30 counties. Of course, a certain restlessness on the part of the boys accounts for some of the cases. Thus one county superintendent refers to the reasons for leaving the country as "want of attractive homes and a desire to see and to have what is new and strange." Another one mentions, among other things, that the boys are not enough acquainted with thoughtful farming and its scientific business side to love it, and, many others refer to the same matters in different ways. Small opportunity, hard work, no amusements, and no opportunities for self-improvement are the keynote of the reasons given by those who are most familiar with conditions in country districts.

The inquiry as to whether boys who leave the country districts are prepared to enter skilled occupations is practically unanimously answered in the negative, 147 saying that the boys have no special training.

A more hopeful side of this problem is presented in the following statement, which mentions the forces at work tending to overcome the trend of the boys from the farm to the town.

Forces tending to decrease the tendency on the part of country boys to go to the city.	Number of counties mentioning each factor.
Better agricultural methods	73
Better schools	36
Better appreciation of country life	27
Greater comfort in farm homes	15
Increase in value of crops	14
Disappointment in city	3
Better wages on farms	2
Better roads	6
Total	176
Counted more than once	70
Total reporting a decreased tendency	106
Total number of schedules	154

Improvements in methods of agriculture, better schools, better appreciation of country life, greater comfort in farm homes, and the increase in the value of crops are the principal features tending to check the desertion of the farm by young men. One hundred and six counties report that such forces are proving to be more or less effective.

The next item in the statistical statement above refers to what is being done for girls over 14 who are still in school, and it seems a fair summary of the situation to say that in a considerable number of counties nothing at all is done in home economics, and the most that is done is offering courses in domestic science in grammar or high schools. As regards girls who have left school and are working in the home, the condition is still worse, 87 counties reporting that nothing at all is being done for them, while 42 have various clubs for the benefit of the girls. Very few indeed have any other provision.

In regard to the adult worker on the farm or in the home, the amount of opportunities offered in rural districts is, practically speaking, negligible. One hundred and seven counties report that absolutely no vocational education in agriculture is provided for this class of workers, and 119 that nothing is done in home economics. While in 44 counties some provision is made for agricultural instruction for adults, it must be remembered that the counties grouped together under the general heading "provided for" have such a variety of provisions and in most cases they are so meager that the bare figures produce a better impression than is justified by the facts.

Question 4 of the county questionnaire reads as follows:

"Does your county have any public secondary schools of agriculture, open for all persons in the county, whose controlling purpose is to fit for profitable employment on the farm?"

To this question 38 counties replied in the affirmative while 115 replied in the negative. Of those in the affirmative, 25 were in the East and 13 in the West, whereas of those in the negative 63 were in the East and 52 in the West, the difference between the sections of the country evidently not being very marked, but, as far as it goes, indicating a slight advantage in favor of the East.

The following statement gives an idea of the character of the courses offered in such schools:

Character of courses offered in public secondary schools of agriculture, open to all persons in county.	Number of counties offering courses.
Practical and theoretical farm courses	36
Academic course	8
Special agricultural and domestic science courses	5
Manual training and domestic science	3
Animal industry	1
No schools	5
No report	108
Total	166
Counted more than once	12
Total number of schedules	154

One hundred and eight counties do not report on the question at all, 36 counties say that they offer practical and theoretical farm courses, and a few others have various types of instruction, such as manual training, domestic science, etc. The fact is apparent that in the great majority of cases there is no provision made for part-time agricultural education for the farmer in the field or for his wife in the home.

A more specific question about part-time education is also asked. To the query as to whether there are any examples of part-time education in the county where the pupil living on the farm can receive instruction in agriculture coordinating it with his daily work, 110 counties say no, while 42 say yes. Secondly, it is asked, "Are there winter courses in agriculture supplemented by supervision of and assistance in the practical work of the boys on the farm in summer?" One hundred and five counties say no, while 42 say yes. In regard to household arts, the situation is very similar, 114 counties having no part-time instruction in household arts, while 37 have made some arrangement for that purpose.

A question was asked of the county superintendents about the extent to which the teachers in the schools availed themselves of the opportunity to obtain free material and information concerning agriculture, agricultural processes and problems, and home processes and problems, from the State college of agriculture, State experiment

station, or from the Department of Agriculture at Washington. Their replies are rather encouraging; 114 reported that the teachers were making good use of this material, 37 reported to the contrary, while 3 counties failed to report on this point.

This inquiry is followed by one asking what further could be done by any of the agencies mentioned above in order to help the teachers in the rural schools. A considerable number of suggestions were made along this line, the greatest demand being for more demonstration work, which means demonstrators sent out to the different schools showing the teachers the actual methods of modern agriculture. A certain amount of additional publicity was requested by some of the county superintendents, the claim being that a good many of the teachers did not know what is being done by the State and Federal agencies in the way of making the results of recent agricultural science accessible.

The question was asked in this connection as to what weaknesses or defects from the standpoint of its use in instruction in agriculture in the rural schools exist in the information and bulletins issued from the State agricultural colleges, State agricultural experiment stations, and the United States Department of Agriculture. Some very interesting information was obtained on this question. The opinions voiced by many of the superintendents were largely of the same nature, the following statement reproducing the general character of these replies:

Weaknesses, from the standpoint of instruction in agriculture in rural schools, in the bulletins issued by State colleges and experiment stations, and the Federal Department of Agriculture.	Number of counties reporting.
Not well distributed	20
Not practical	20
Too complex	15
Too technical	13
Demonstration needed	4
Not interesting	3
Not read	3
No criticism	29
No report	47
Total	154

Probably the most important claim made in each case was that the bulletins are not well distributed; that they are not practical enough; that they are too complex; too technical. Some of the county superintendents felt that the teachers did not appreciate the bulletins sufficiently. One man says: "Simplification is needed. The bulletins ought to be rewritten by men who have had experience in the elementary schools. More problems and experiments ought to be outlined for the farmers to work at."

The same question was asked about the publications from the same sources from the standpoint of instruction in household arts. The nature of the replies to this question is very similar to that of the replies to the previous question. One county superintendent puts the matter very picturesquely, as follows: "Colleges and stations trying to instruct people by bulletins are like surgeons trying to perform operations by mail."

Replies to the inquiry as to the weaknesses in the official publications above described from the standpoint of the farmer are substantially of the same character as those made in each of the other cases. Criticism is directed toward complexity, impracticability, unattractiveness as to type and illustrations. In general, the idea seems to be that the farmer is not accustomed to use books and can be reached much more satisfactorily by actual demonstration, and, if the publications are the best thing that can be offered him, they should be attractive, concrete, and easily understood; accounts of actual experiences and illustrations are helpful in holding the farmer's attention and in making the text clear to him.

Substantially the same objection is voiced in regard to these publications from the standpoint of the farmers' wives. One county superintendent says: "These bulletins should be put in more attractive form, as many persons receiving any sort of document from the Department of Agriculture are apt to consign it to the waste basket without looking at its contents. The people need education." Another one says: "The bulletins are good. The real weakness is found in the painful conservatism of the Scotch-Irish people." There is one additional point brought out by the replies to the questions from the point of view of the farmers' wives—namely, several of the superintendents complain that the advice given in the official bulletins call for too elaborate equipment and that the farmer's wife frequently finds herself unable to

follow their advice because it involves considerable initial expense in the way of new appliances.

The question is asked of the county superintendents as to whether the agricultural colleges give adequate training to teachers of agriculture and household arts in rural schools. Seventy-seven of the counties said yes, 55 said no, while 22 did not reply. The proportion of affirmative replies is considerably greater in the Western States than in the East.

As to what weaknesses there were in the methods of training teachers of agriculture, the great majority who had any criticism to offer said that the training is not sufficiently practical. Some thought that not enough attention was paid to pedagogy. Some thought the teachers did not have sufficient sympathy with the farmer's point of view. One county superintendent phrases it this way: "The graduates do not know how to get the best results from a rocky hillside or stumpy new ground, using the equipment that is found on the average farm." Another says that the teachers often emphasize trivial and omit important matters. He thinks a course in comparative values should be given. A man from Massachusetts thinks that the chief trouble is that the teachers know agriculture but do not know the human mind.

The questionnaire called for suggestions on the part of county superintendents as to what could be done to improve the facilities for training teachers in rural communities. The suggestions made are along the same lines as the criticisms offered. One county superintendent says: "The teachers have every modern convenience to work with—the child has not. Train the teacher to adjust herself so that she may readjust the child."

The questionnaire also calls for suggestions as to what can be done further by State colleges of agriculture and by the United States Department of Agriculture to aid the teachers in giving instruction in agriculture and household arts. The greatest demand appeared to be for demonstration work and extension work of various kinds. Making the bulletins more readable and more practical as well as arranging a better system of distributing them was also considered to be desirable from the standpoint of the teacher of agriculture.

The two statements following show what the county superintendents would deem it best to do to make agriculture and home economics more effective in the next 10 years. Great stress is laid by the superintendents on agricultural education and on vocational education in general.

Program recommended for making agriculture most efficient within the next 10 years.	Number of counties recommending each program.
Develop demonstration work	85
Improve agricultural schools and organize new ones	78
Provide for better teachers of agriculture	39
Improve supervision over rural schools	21
Miscellaneous	12
No statement	18
Total	253
Counted more than once	99
Total number of schedules	154

Program recommended for making home economics better understood on the farms within the next 10 years.	Number of counties recommending each program.
Organize high or normal schools with courses in agriculture and domestic science	82
Improve supervision over vocational training	61
Organize various clubs	12
Teach agriculture in grammar schools	9
Organize demonstration work	8
Provide lectures	8
Arrange summer courses for teachers	7
Consolidate schools	5
Organize short-term schools of domestic science	3
Inaugurate extension work	3
Provide better teachers	3
Employ county visiting nurse	3
Introduce household arts into normal schools	2
Give school credit for home work	2
Arrange for better pay for teachers	1
Miscellaneous	11
No report	19
Total	239
Counted more than once	85
Total number of schedules	154

As to the question whether rural communities had sufficient funds available to carry out a program of vocational education, 16 counties replied in the affirmative, while 129 replied in the negative.

To the question as to whether the county needs further grants in addition to those contained in the Lever bill, 88 superintendents said yes, 11 said no, and 55 failed to report. Of those reporting in the negative one gave as a reason, "that the rural community should be aroused to work for its own interest and not have all things done for them." Another thought that "nothing effective can be accomplished through the schools except under the direction of the local school authorities. A competent county superintendent of schools can accomplish more in the schools than 50 demonstration agents."

As to the question of how the schools could use the additional money most effectively, there is a very considerable diversity of opinion. Some of the superintendents want better equipment, others want new schools founded, some want more club work done, and some believe in a greater amount of demonstration work. One says: "We could give our boys and girls of the country the same advantages as are given to city children; a great many of our boys and girls who attend city schools become weaned away from the country. If funds were available we could build agricultural schools away from the city and give special training, fitting them for country life." Another one says: "We could have secondary schools of agriculture; that is, we could carry my doctrine of agricultural education to the doors of the people. The schools would be the nucleus for the spreading of the great doctrine of vocational education, of agricultural education, and home economics. These schools would teach people to be scientific, useful, economic, and therefore homemakers."

REPLIES FROM EMPLOYERS.

In addition to the schedules sent to the State, city, and county superintendents, the commission sent out questionnaires to a number of representative employers of labor in various industries. The names of the employers were suggested to the commission by 14 associations of manufacturers representing industries employing skilled, semiskilled, and unskilled labor. Forty-three replies were received. The data contained in these schedules were considered to be of sufficient importance to present in toto, thus making it possible for any individual interested in any particular industry to obtain a fairly complete picture of the establishment and what it is doing for

vocational education. The results of the inquiry are incorporated in Table 7 on page 161. A statistical summary of the data in this table is incorporated in the following statement:

Statistical summary of information obtained from employer's schedule.

	Number of firms making each specified reply.
Total number of schedules received	43
Source of supply of workers:	
Trained in shop	19
Trained in shop and general labor market	5
General labor market	14
Apprenticeship system	2
No report	3
Firms employing skilled workers from Europe—	
Entirely	10
Partially	7
Not at all	23
No report	3
System of apprenticeship:	
Firms that have such a system	16
Firms that have not	24
Firms not reporting	3
Firms that operate a system of apprenticeship—	
Under trade agreements	9
Under partial trade agreement	1
Not reporting	6
Firms requiring apprentices to take training outside of shop experience—	
Total	12
In correspondence schools	1
In schools operated by company	4
In part-time or continuation schools	4
In schools in cooperation with union	2
In schools having evening classes	2
In other ways	4
Counted more than once	5
Firms having trouble about obtaining apprentices on account of—	
All causes	12
Boys unwilling to learn trade	7
Low wages	4
Union limitations	1
Attitude of firms toward old-time system of apprenticeship—	
Firms considering system—	
Adequate	8
Inadequate	24
Not reporting	11
Attitude of firms toward correspondence schools:	
Firms that consider them—	
Valuable	15
Of doubtful value	3
Not valuable	7
No report	18
Attitude of firms toward industrial and trade courses for young persons 14-18, before entering industry:	
Firms that consider such courses—	
Valuable	27
Of doubtful value	3
Not valuable	7
No report	6
Attitude of firms toward part-time school for training workers:	
Firms that consider such courses—	
Valuable	26
Not valuable	10
No report	7
Attitude of firms toward evening classes:	
Firms that consider such classes—	
Valuable	22
Of doubtful value	1
Not valuable	3
No report	17
Firms favoring each specified kind of industrial trade schools for the training of young persons 14-18, before entering industry:	
Firms favoring—	
Public	24
Private	3
Both	6
No report	10

Statistical summary of information obtained from employer's schedule—Concluded.

	Number of firms making each specified reply.
Firms favoring each specified kind of control for trade schools for young persons 14-18, before entering industry:	
School board	16
Special board	18
No report	9
Frequency of attendance of evening schools by workers:	
Firms reporting such schools are attended by—	
Many	9
Few	9
None	16
No report	9
Recognition by firms of value of outside training by increasing wages:	
Firms that have this custom	12
Firms that have not	7
Firms not reporting	24
Attitude of firms toward national grants for vocational education in—	
Any schools:	
Favorable	29
Unfavorable	8
Not reported	6
Industrial and trade schools:	
Favorable	12
Unfavorable	24
Not reported	7
Part-time and trade schools:	
Favorable	15
Unfavorable	22
Not reported	6
Part-time and industrial schools:	
Favorable	11
Unfavorable	26
Not reported	6
Evening and trade continuation schools:	
Favorable	17
Unfavorable	18
Not reported	8
Attitude of firms toward national grants for continuation schools for general education:	
Favorable	25
Unfavorable	8
No report	10

To the question as to what was the chief source of supply of workers in each business, 19 employers replied that they trained their skilled workers in the shop, 5 replied that some were trained in the shop while others were obtained in the general labor market, and 14 said that the general labor market was their main source of supply; 2 depended upon a system of apprenticeship and 3 made no reply. In 17 of the concerns some of the skilled workers came from Europe, in 23 this was not the case, and 3 did not report.

In regard to the system of apprenticeship, there were 16 shops that reported the existence of such a system in their business, 24 reported that there was no such system, while 3 did not report. Of the 16 having a system of apprenticeship, 9 had a trade agreement, one had a partial agreement, and 6 did not report. In but few cases were the apprentices required to take correspondence-school courses, and in 4 firms only was there a compulsory school operated by the company on a part-time system. Two firms reported cooperation with labor unions in training workers. Twelve of the companies experienced difficulty in securing apprentices; of these, 7 reported that the reason was that boys did not want to learn the trade; 4, that wages were low; and 1, that the union limited the number of apprentices.

The employers were asked the extent to which old-time apprenticeship may be considered adequate to meet the need of skilled workers in their industry. Eight of the companies thought that the system was adequate, 24 said that it was inadequate, and 11 did not report.

The business concerns were further asked whether correspondence-school courses taken by employees were valuable to them in increasing their efficiency. Fifteen thought that the courses were distinctly useful, 7 were of opposite opinion, 3 were doubtful, while 18 did not report. The value of industrial trade schools was more generally recognized by the employers, 27 thinking they were of value and only 7 being of the contrary opinion. Twenty-four of the employers thought that

industrial trade schools should be under public control, while 3 thought they should be under private control, 6 believed in schools under public as well as under private control, while 10 failed to report. As to whether the trade schools should be controlled by the regular public-school authorities or by a special board, 18 employers thought that a special board was necessary while 16 thought that the school board was the proper authority, and 9 did not report. Twenty-six firms favored part-time schools for training the workers, 10 were of the belief that such schools were not necessary, and 7 did not report. The employers were asked to what extent they thought the workers attended evening schools. Nine replied that they thought this was frequently the case, 9 that such cases were rare, and 16 believed that no workers did so, while 9 did not report. As to the value of these classes, there was a substantial favorable agreement among all the employers who reported. They do not, however, frequently recognize the value of such training by increasing the wages of the employees who take such courses, only 12 of the employers reporting themselves as recognizing the value of training by raising wages, 7 saying distinctly that they did not, while 24 did not report, the supposition being fair that they do not make a practice of encouraging vocational education by offering high wages to those who undertake to study.

In regard to national grants for vocational education, the employers stood 29 in favor, 8 opposed, and 6 not reporting. Of those who are in favor of national grants, the greatest number favor evening and trade continuation classes, 17 being in favor of this kind of instruction. Twenty-five of the employers also favored national grants for the improvement of the general intelligence of the workers. Most of them did not state whether they considered the grants for general education more important than those for vocational education.

Among the reasons given by the employers for favoring national grants, it was mentioned that vocational education is democratic; at present only the well-to-do can afford to go to technical schools. In opposing national grants one employer gave the reason that the subject of vocational education has not been carefully thrashed out and national moneys would be wasted as long as the question remains in its present chaotic condition.

REPLIES RECEIVED FROM TRADE UNIONS.

A questionnaire was sent to each of the 104 national or international trade unions affiliated with the American Federation of Labor. Forty-three schedules were received by the commission in response to this canvass. The general results of the inquiry are incorporated in Table 8, on page 168, and a statistical summary of the results is presented in the following statement:

Statistical summary of information derived from schedules sent to trade unions.

	Number of organizations giving each specified reply.
Total number of schedules received	43
Attitude of organizations toward—	
Industrial education—	
Favorable	14
Not favorable	11
No report	18
Apprenticeship system—	
Organizations that—	
Have such a system	25
Have no such system	16
Make no report	2
Specialization of industry—	
Organizations whose trade is—	
Highly specialized	20
Not highly specialized	18
No report	5
Effect of industrial education on specialization:	
Organizations believing that—	
It lessens the tendency	14
Does not lessen the tendency	18
No report	11

Statistical summary of information derived from schedules sent to trade unions—Concld.

	Number of organizations giving each specified reply.
Effect of industrial education on persons in highly specialized callings:	
Organizations believing that it is—	
Beneficial	24
Not beneficial	5
No report	14
Attitude of organizations as to agreements between employers and unions for the training of workers:	
Favorable—	
Total	30
Apprenticeship systems	8
Factory schools controlled by employers for workers	3
Combination of an apprenticeship system and compulsory classes supported by the school system	19
Unfavorable	8
No report	5
Do private and correspondence schools meet the need for industrial education?	
Organizations believing that such schools are—	
Valuable	11
Not valuable	19
No report	13
Organizations favoring—	
Correspondence schools	1
Classroom work	34
No report	8
Organizations training members by systems other than apprenticeship:	
In any manner—	
Yes	8
No	29
No report	6
By schools operated by union—	
Yes	8
No	29
No report	6
By courses of instruction carried on by mail—	
Yes	1
No	34
No report	8
Attitude of organizations toward education to safeguard workers from accident or disease:	
Favorable	22
Not favorable	3
No report	18
Attitude of organizations toward national grants for—	
Vocational education—	
Favorable	30
Not favorable	4
No report	9
General education—	
Favorable	25
Not favorable	4
No report	14
Organizations believing that—	
General education is more important	13
Vocational education is more important	2
Both kinds equally important	6
No report	22

Perhaps the most important question in the schedule is one asking the trade unions whether they are in favor of industrial education or not. Fourteen answer the question in the affirmative and 11 in the negative, while 18 make no reply. Among the reasons given for opposing industrial education are the following:

One organization reports that vocational education is not necessary because the trade is handed down from father to son.

Another union does not believe it necessary to have a large number of persons in the business, and thinks an apprenticeship system is all that is required.

A third union is public-spirited enough to say that while no advantage to their union could come through vocational education they realize that it is a good thing for labor in general.

Some others oppose vocational education on the grounds that practical experience is the only way to learn to be an effective worker in the trade. Others did not want to have a system established that would threaten to increase greatly the number of persons in the occupation.

Twenty-five of the unions reported the existence of a system of apprenticeship; 16 said that they have no such system, while no report has been received from 2. A description of the apprenticeship system in each of the unions that have reported one can be found on pages 143 to 146.

As to whether industrial education would lessen the tendency for specialization, 14 unions think it would, while 18 think otherwise, and 11 do not report. Twenty-four of the unions think that industrial education would benefit even those who are in highly specialized callings, and only 5 think they would not derive any benefit from vocational education.

The trade unions were further asked whether they favored agreements between employers and unions for the training of workers. Thirty unions said they favored such agreements, 8 were opposed to them, and 5 did not reply.

The unions were also asked whether they thought that correspondence schools and private schools were valuable to the members of the union. Eleven unions thought they were, 19 thought they were not, and 13 did not reply.

Asked more specifically whether they believed that classroom work or correspondence school instruction was preferable, 34 unions were in favor of classroom work, and only 1 preferred the correspondence method of instruction.

Only 8 of the unions reported that they trained their own members by systems other than apprenticeship, while 29 said they did not, and 6 did not reply.

The great majority of the unions favored the encouragement of education for the purpose of safeguarding the workers from accidents and diseases. Of the 43 from whom schedules were received, 30 favored national grants for vocational education, while only 4 were opposed to such grants. Twenty-five favored national grants for general education, the number opposing being 4.

As to which of the two types of education was most in need of national grants, the unions failed to reply in 22 cases. Of those replying, 13 said that general education was more important, 2 that vocational education should have the preference, while 6 thought that they were equally important.

In addition to the unions from which the commission received schedules, a considerable number of replies were received to telegrams asking the specific question whether the union favored national grants for vocational education or not. In combining the answers received on schedules and those received by telegram or letter, we have the opinions of 75 unions, 45 of which were favorable to national grants for vocational education, while 12 were not favorable, and the secretaries of 18 felt that they were not prepared to give an opinion on this subject.

Of those opposing national grants for vocational education, the Western Federation of Miners was the most emphatic.

The tunnel and subway constructors are opposed to national grants for vocational education on the ground that a strong physical constitution is all that is necessary to carry on the trade effectively.

The metal mine workers think that vocational education in their trade could be used only in learning how to handle explosives.

The lithographers are opposed to national grants on the following grounds:

"A school was started by the Lithographers' Association and failed, because the cost for educating a boy to a poor-paying position was found to be as high as the cost of a college education, and the boy did not have the competition in the school which he would have in the shop, and therefore did not prove as successful in the grind of actual work as boys trained in the factory."

The secretary of this organization thinks the child mind is so constituted that it is not able to gain a working knowledge of a trade by attending a school.

Laundry workers are opposed to national grants on the ground that it would not pay to establish a laundry plant in connection with the schools because the laundry workers can learn the trade in two or three weeks.

Glassworkers opposed national grants because they thought it was a State matter.

These are some of the most significant unfavorable replies received from the unions. On the other hand, some very warm indorsements of vocational education were given by those unions that favored national grants.

The journeymen plumbers think that national grants would tend to standardize education.

The painters, decorators, and paper hangers think that many States are too poor to provide for their own citizens and that national grants would insure equal opportunities to all.

The railway signalmen are in favor of national grants for vocational education on the ground that the signalmen should have whatever the farmers have.

At least two of the labor unions expressed themselves in favor of national grants for the reason that the American Federation of Labor has indorsed such grants.

APPRENTICESHIP SYSTEMS IN CERTAIN LABOR UNIONS.

INTERNATIONAL BROTHERHOOD OF BLACKSMITHS AND HELPERS.

The blacksmiths have a four-year apprenticeship of 300 days per year. The apprentice starts at 12 cents an hour, increasing to journeymen's wages. A rudimentary education is required and the apprentice is encouraged to attend evening classes, though the trade does not furnish special education. The ratio is one apprentice to five journeymen. The helpers are allowed to become apprentices after two years' service and may complete their apprenticeship in three years.

UNITED BROTHERHOOD OF CARPENTERS AND JOINERS OF AMERICA.

Carpenters and joiners in the woodwork industry.

This trade provides for a four-year apprenticeship of nine months each year, the remaining three months being spent in school. The union requires a certificate from the school principal that this work has been done. Wages for the first year are not less than $7 a week; for the second year, $8.50; for the third year, $10; and for the fourth, $13. No contractor is permitted more than two apprentices at one time. The trade has about 5,000 apprentices. An effort is made to give technical training to apprentices through the official journal.

AMERICAN BROTHERHOOD OF CEMENT WORKERS.

Concrete work and artificial stone.

This trade has a few apprentices serving a four-year term, all conditions being controlled by local rules.

DIAMOND WORKERS' PROTECTIVE UNION OF AMERICA.

Diamond cutting, polishing, and sawing.

This organization requires public-school graduation and a medical examination, including examination of the eyes as a preliminary to apprenticeship. The boy must be 16 years of age. No payment is made the first year, but shortly prior to the termination of service the wage of $24 a week is usual. One apprentice to 10 journeymen is permitted.

INTERNATIONAL BROTHERHOOD OF ELECTRICAL WORKERS OF AMERICA.

Electrical work in building, manufacturing, telephone, telegraph, light and power transmission, shipbuilding, mining, and railroad industry.

There is an apprenticeship system for all branches of this industry, controlled by the local unions. Wages vary in the different localities, ranging from $1.25 at the start to 50 cents a day less than journeymen's wages. The apprentice is required to have a grade-school education. In some cases unions have arranged with city boards of education for instruction of apprentices in mathematics, electricity, English, and mechanical drawing. Some locals have independent schools. The average is one apprentice to four journeymen.

INTERNATIONAL BROTHERHOOD OF STATIONARY FIREMEN.

Work on any stationary boilers.

There is no actual apprenticeship, but certain standards for admission are set. The helper is given an opportunity to learn the trade, and "just as soon as he becomes a safe person and can keep up the steam" he is classed as a journeyman. There are no limitations as to length of service or numbers.

FUR WORKERS' UNION OF THE UNITED STATES AND CANADA.

Fur cutters, squarers, operators, nailers, finishers and liners, ironers and examiners, beaters and cleaners, pointers, glove makers, cap makers, band makers, Persian makers, skull makers, rug makers, muff bed makers, hand dressers, hand shavers, machine shavers, machine fleshers, floor workers, dyers, and scrapers.

Of the several branches of this industry that of fur dressers, only, provides for apprenticeship. The term is three years.

UNITED GARMENT WORKERS OF AMERICA.

Men's clothing, shirts, overalls, collars and cuffs, laundry workers working on new goods.

There is an apprenticeship system in each branch of this industry. The ratio of apprentices is 1 to 3 in the overall-cutting trade, 1 to 10 in clothing cutting and tailoring, while in the overall, shirt, and collar operatives trades there are no restrictions. The term is three or four years. There is no uniformity in wages.

AMALGAMATED GLASSWORKERS' INTERNATIONAL ASSOCIATION.

Decorative glassworkers, bevelers, silverers, embossers, designers, glass painters, draftsmen, glass mosaic and plate-glass workers.

There is a system of apprenticeship in the finishing trades of this industry, the term being from three to five years. Wages range from $4 a week for beginners to $10. The ratio in some districts is one to five journeymen; in others, one to seven.

AMERICAN FLINT-GLASS WORKERS' UNION.

Flint glass industry.

There is no uniformity in apprenticeship regulations. The term varies from one to five years and the wages from $5 to $15. As the wages of the journeymen are affected by the work of the apprentices under them, it is to the interest of the journeymen to see that the apprentices are well trained.

INTERNATIONAL GLOVE WORKERS' UNION OF AMERICA.

Fine and heavy glove trade; each has cutting, sewing, and finishing.

Some branches have an unsystematized apprenticeship, but the table cutting requires about three years. There is no uniformity of conditions.

GRANITE CUTTERS' INTERNATIONAL ASSOCIATION OF AMERICA.

Granite cutting and polishing, including tool sharpening.

This trade has a three-year apprenticeship for cutters and two years for polishers and tool sharpeners. The average ratio is one apprentice to seven journeymen. The wage is not uniform.

INTERNATIONAL UNION OF JOURNEYMEN HORSESHOERS OF UNITED STATES AND CANADA.

Horseshoeing.

The constitution of this organization provides for a four-year apprenticeship, one apprentice being allowed to each shop.

INTERNATIONAL UNION OF WOOD, WIRE, AND METAL LATHERS.

Lathing.

The lathers allow the helpers to enter the trade after two years' service. The wage is $1.25 at the start, increasing to $3 or $3.50.

UNITED BROTHERHOOD OF LEATHER WORKERS ON HORSEGOODS.

Harness making, saddle making, gig saddle making, collar making, and horse boot making.

The system of apprenticeship in this union is decadent, owing to the deterioration of the trade, ascribed to the advent of the automobile. The former term was three years, wages ranging from $2 to $6. The trade employs now 15 apprentices on the average.

INTERNATIONAL BROTHERHOOD OF MAINTENANCE OF WAY EMPLOYEES.

Section foremen and laborers, bridge and building carpenters, painters, water service men, pump men, pump repairers, masons and bricklayers, signal and interlocking maintainers (not telegraph operators), blacksmiths, plumbers, tinsmiths, engine and fire men on hoisting engines, pile drivers, and steam shovels.

An unsystematized apprenticeship exists in this trade, the term being from three to five years, at a wage of $1 per day and upward. One apprentice to five journeymen is usually allowed.

AMALGAMATED SHEET METAL WORKERS' INTERNATIONAL ALLIANCE.

It is the practice of the trade to train apprentices, but it is not an organized system. The term is usually four years. There is no uniform rate of pay. The average ratio is one apprentice to four journeymen.

INTERNATIONAL MOLDERS' UNION OF NORTH AMERICA.

Making of molds and castings for all metal.

This trade provides for a four-year apprenticeship, allowing one apprentice to each five journeymen. During the last two years of his term the apprentice works between two journeymen, if possible. There is no fixed rate of payment. The organization offers to pay the tuition of apprentices who attend technical schools.

BROTHERHOOD OF PAINTERS, DECORATORS, AND PAPER HANGERS OF AMERICA.

House, sign, pictorial, coach, car, carriage, machinery, ship and railroad equipment painters, decorators, paper hangers, hardwood finishers, grainers, glaziers, varnishers, enamelers, gilders, and scenic artists.

This trade has a three-year apprenticeship, but there is no uniformity of conditions, as requirements are controlled by the locals.

PATTERN MAKERS' LEAGUE OF NORTH AMERICA.

Pattern making.

Four years is the usual term of apprenticeship, though the union stands for five years. The wages are not uniform. Some shops provide schools, and the union constitution requires that a boy be 16 years of age and attend a technical school approved by the association. The ratio permitted is one to eight journeymen and one to each shop.

UNITED ASSOCIATION OF JOURNEYMEN PLUMBERS AND STEAM FITTERS.

Plumbers, steam fitters, gas fitters, sprinklers, fitters, general pipe fitters and helpers.

This union has an apprenticeship system, the plumbers and gas fitters having one apprentice to a shop, and the steam fitters one to each man. The term is five years, the wages $1 a day at the start, increasing each year up to $5. A grammar school education is required and the training is carried on under a journeyman's instructions.

NATIONAL PRINT CUTTERS' ASSOCIATION OF AMERICA.

Cutters, putters-on, filters, burners, routers.

This organization has a five-year apprenticeship for putters-on and cutters. The wage the first year is $4, the second year $6, the third year $9, the first half of the fourth year $12, and the second half $15. Of the cutters' apprentices there are 14, of the putters-on 4, one apprentice every three years being allowed in shops of five or more journeymen. There is no provision for instruction other than the routine of the trade, but each journeyman is expected to take an interest in the training of the apprentices.

QUARRY WORKERS' INTERNATIONAL UNION OF NORTH AMERICA.

Granite quarrymen, quarry and paving cutter blacksmiths, derrickmen, engineers, firemen, steam and air-drill runners, laborers, soft-stone quarrymen, channelers, lumpers and boxers, riggers of derricks, cranes or any other device, and stone derrickmen.

This union has no system of apprenticeship, but individual shops train a small number of boys, the term of service ranging from five months to two years.

ORDER OF RAILROAD TELEGRAPHERS.

Telegraphers, train dispatchers, station agents, line repairers, levermen, train directors, telegraph operators, block operators, staff men.

There is no actual apprenticeship. The trade is usually taught by the father to the son in about three years' time. The organization requires telegraphers to obtain permission to teach the trade.

BROTHERHOOD OF RAILWAY CARMEN OF AMERICA.

Electric or motor car builders and repairers, car inspectors, car oilers, coach cleaners, coach gas and steam pipemen, airbrake men, planing mill men, bench carpenters, locomotive carpenters, locomotive coach and car painters and their helpers, material men, tank men, tinners and upholsterers, axle-lathe men, wheel borers, wheel pressmen, bolt cutters and tappers, nut tappers, pipe fitters and their helpers employed in the car department, blacksmiths and their helpers, car foremen and their assistants, millwrights and boiler laggers, axle light men who work on wood or steel cars, wrecking engineers and their crews, pattern makers who work in car departments or carry on car department contract work.

Apprenticeship rules vary with the different railway systems. On the Rock Island lines there is one apprentice to each trade and one additional to each five journeymen. On the San Francisco lines there is one to each shop, regardless of number of men employed, with an additional apprentice to each five journeymen. The period of service is either three or four years. Payment ranges from 10 to 25 cents an hour. A rudimentary education is required. If an apprentice does not prove competent within six months (or one year, depending upon the rules in each railroad), he is dismissed.

The Canadian Pacific has special classes, four hours a week, in well-equipped schoolrooms provided by the company. Instruction is given in arithmetic, writing, freehand and mechanical drawing. On satisfactory completion of his apprenticeship each boy receives a complete set of drawing instruments. Five scholarships of the International Correspondence School are awarded each year.

INTERNATIONAL SEAMEN'S UNION OF NORTH AMERICA.

Firemen, oilers, water tenders, coal passers, cooks, waiters, etc.

This union has attempted to secure legislation compelling employment of a certain number of American boys on each ship, but this has been bitterly opposed by shipowners.

SPINNERS' INTERNATIONAL UNION.

Cotton and wool spinners on mules.

Apparently there is no regular apprenticeship. A certain degree of skill is required for admission to the union, but there is no provision for acquiring it.

STEEL PLATE TRANSFERERS' ASSOCIATION OF AMERICA.

Steel plate transferers.

This organization has a five-year apprenticeship for one apprentice to each 10 journeymen. No set scale of wages and no special instruction is provided.

CERAMIC, MOSAIC, AND ENCAUSTIC TILE LAYERS AND HELPERS INTERNATIONAL UNION.

Decorative and sanitary tile setting, mantel building, etc.

This union has an apprenticeship term of not less than two years, the wages varying from $1.75 per day to $3.50 per day. No instruction other than shop experience is offered the apprentice. The number of apprentices and their management is left in the hands of the locals.

TABLE 1.—WHAT THE STATES ARE DOING FOR VOCATIONAL EDUCATION FOR PERSONS OVER 14 YEARS OF AGE.

IN ALL-DAY SCHOOLS.

Geographical divisions and States.	Trades and industries.	Commercial education.	Agricultural education.	Household arts.
New England:				
Maine	Courses in elementary and high schools.	Nothing	Courses in high schools	Nothing.
New Hampshire	Courses in secondary schools	Courses in secondary schools	Courses in secondary schools	Courses in secondary schools.
Vermont	Not reported	Not reported	Not reported	Courses in schools.
Massachusetts	Courses in 14 special schools	Courses in high schools	Courses in high schools and 4 agricultural schools.	Five special schools.
Rhode Island.[1]				
Connecticut.[1]				
Middle Atlantic:				
New York	Courses in trade and commercial schools.	Courses in regular schools	Courses in high schools	Courses in industrial, elementary, and high schools.
New Jersey	Courses in high schools	State contributes $400 for teachers	do	Courses in high schools.
Pennsylvania	Courses in day schools	Courses in day schools	Courses in day schools	Courses in schools.
East North Central:				
Ohio	Not reported	Not reported	Not reported	Courses in public and high schools.
Indiana	State pays two-thirds of cost of instruction.	Nothing	State pays two-thirds cost of instruction.	State pays two-thirds cost of instruction.
Illinois.[1]				
Michigan	Eight cities provide for it	Eighty cities provide for it	Forty villages and cities provide for it.	Eighty-two villages and cities provide for it.
Wisconsin	Not reported	Courses in high schools	Courses in high and argicultural schools.	Courses in all schools.
West North Central:				
Minnesota	Courses in high schools and university.	Courses in high schools and university.	Not reported	Not reported.
Iowa	Nothing	Courses in high schools	Courses in high schools	Courses in high schools.
Missouri	Courses in high schools	do	do	Do.
North Dakota	Courses in schools	Courses in schools	State agricultural college	Courses in schools.
South Dakota	Nothing	Courses in about 50 high schools	Courses in 15 high schools	Courses in 25 high schools.
Nebraska	Courses in high schools	Courses in 20 schools	Courses in 18 schools	Courses in 50 schools.
Kansas	Nothing	Nothing	Courses in high schools	Courses in high schools.
South Atlantic:				
Delaware	Not reported	Courses in high schools	do	Do.
Maryland	Courses in high schools	do	do	Do.
Virginia	Some special schools	Eight cities provide for it	Three-fourths of the counties provide for it.	Three-fourths of the counties provide for it.
West Virginia	Courses in high schools	Courses in high and preparatory schools.	Courses in high and elementary schools.	Courses in high schools.

[1] Schedule not returned.

TABLE 1.—WHAT THE STATES ARE DOING FOR VOCATIONAL EDUCATION FOR PERSONS OVER 14 YEARS OF AGE—Con.

IN ALL-DAY SCHOOLS—Concluded.

Geographical divisions and States.	Trades and industries.	Commercial education.	Agricultural education.	Household arts.
South Atlantic—Con.				
North Carolina	Nothing	Courses in high schools	Courses in high and 8 county farm schools.	Courses in high and 8 county farm schools.
South Carolina	do	do	Courses in a few schools	Courses in a few schools.
Georgia	Courses in one school of technology	Nothing	Courses in 11 district agricultural schools.	Nothing.
Florida	Courses in schools of several cities	Not reported	Not reported	Courses in schools of several cities.
East South Central:				
Kentucky	Not reported	do	do	Not reported.
Tennessee	Courses in high schools	Courses in high schools	Courses in high schools	Courses in city and county high schools.
Alabama	Not reported	Not reported	Not reported	Not reported.
Mississippi	Nothing	Nothing	Courses in 33 agricultural high schools.	Do.
West South Central:				
Arkansas	Courses in high schools	Courses in high schools	Courses in high schools	Courses in high schools.
Louisiana	do	do	State contributes $1,000 for 38 large schools.	State contributes $500 for 64 schools.
Oklahoma	Nothing	do	Courses in all schools	Courses in all schools.
Texas	Not reported	Not reported	Courses in public schools	Not reported.
Mountain:				
Montana	do	Courses in high schools	Courses in high schools	Courses in high schools.
Idaho	Nothing	do	do	Do.
Wyoming	do	Nothing	Nothing	Nothing.
Colorado	Courses in 1 special school	Courses in high schools	Courses in high and rural schools	Courses in high and rural schools.
New Mexico	Nothing	do	Courses in common schools	Courses in public schools.
Arizona	Courses in city, union, high, and town public schools.	do	Courses in high and normal schools, and universities.	Courses in city, union, high, and town public schools.
Utah	Not reported	Not reported	Not reported	Not reported.
Nevada.[1]				
Pacific:				
Washington	Courses in high schools	Courses in high schools	Nothing	Courses in high and elementary schools.
Oregon	Nothing	do	Courses in high schools	Courses in high schools.
California	Courses in polytechnic schools	do	do	Do.

IN PART-TIME OR CONTINUATON SCHOOLS.

New England:				
Maine	Nothing	Nothing	Nothing	Nothing.
New Hampshire	do	do	do	Do.
Vermont	Not reported	Not reported	Not reported	Not reported.
Massachusetts	Boston provides for it	Boston provides for it	Nothing	Do.
Rhode Island.[1]				
Connecticut.[1]				
Middle Atlantic:				
New York	Eight schools	Not reported	Thirty-six schools	Do.
New Jersey	State law provides for aid	Nothing	State law provides for aid	State law provides for aid.
Pennsylvania	Schools for trades and industries	do	Schools for agricultural education	School for household arts.
East North Central:				
Ohio	Not reported	Not reported	Not reported	Not reported.
Indiana	State pays two-thirds of cost of instruction.	Nothing	State pays two-thirds of cost of instruction.	Provides training for persons 14 to 25 years of age.
Illinois.[1]				
Michigan	Four cities provide for it	Not reported	Not reported	Not reported.
Wisconsin	Thirty cities provide for it	Nothing	Nothing	Thirty cities provide for it.
West North Central:				
Minnesota	Nothing	do	do	Nothing.
Iowa	do	do	do	Do.
Missouri	do	do	do	Do.
North Dakota	do	do	do	Do.
South Dakota	do	do	do	Do.
Nebraska	Not reported	Not reported	Not reported	Not reported.
Kansas	Nothing	Nothing	Nothing	Nothing.
South Atlantic:				
Delaware	do	do	do	Do.
Maryland	One school	do	do	Do.
Virginia	Two cities provide for it	Two cities provide for it	Fifty counties provide for it	Fifty counties provide for it.
West Virginia	Nothing	Nothing	Nothing	Nothing.
North Carolina	do	do	do	Do.
South Carolina	Not reported	Not reported	Not reported	Not reported.
Georgia	Nothing	Nothing	Nothing	Nothing.
Florida	A few counties provide for it	Not reported	A few counties provide for it	Not reported.
East South Central:				
Kentucky	Not reported	do	Not reported	Do.
Tennessee	Nothing	Nothing	Nothing	Nothing.
Alabama	Not reported	Not reported	Not reported	Not reported.
Mississippi	Nothing	Nothing	Nothing	Nothing.
West South Central:				
Arkansas	do	do	do	Do.
Louisiana	Not reported	Not reported	Not reported	Not reported.
Oklahoma	Nothing	Nothing	Nothing	Nothing.
Texas	Not reported	Not reported	Not reported	Not reported.

[1] Schedule not returned.

TABLE 1.—WHAT THE STATES ARE DOING FOR VOCATIONAL EDUCATION FOR PERSONS OVER 14 YEARS OF AGE—Con.

IN PART-TIME OR CONTINUATION SCHOOLS—Concluded.

Geographical divisions and States.	Trades and industries.	Commercial education.	Agricultural education.	Household arts.
Mountain:				
Montana	Nothing	Nothing	Nothing	Nothing.
Idaho	do	do	do	Do.
Wyoming	do	do	do	Do.
Colorado	Courses in four schools	Courses in four schools	Courses in four schools	Courses in four schools.
New Mexico	Nothing	Nothing	Nothing	Nothing.
Arizona	do	do	do	Do.
Utah	Not reported	Not reported	Not reported	Not reported.
Nevada.[1]				
Pacific:				
Washington	Nothing	Nothing	Nothing	Nothing.
Oregon	Not reported	Not reported	Not reported	Not reported.
California	Nothing	Nothing	Nothing	Nothing.

IN EVENING SCHOOLS.

New England:				
Maine	Courses in common schools	Courses in common schools	Nothing	Courses in common schools.
New Hampshire	Nothing	Nothing	do	Nothing.
Vermont	Not reported	Not reported	Not reported	Not reported.
Massachusetts	Fifteen special schools	do	Nothing	Nineteen special schools
Rhode Island.[1]				
Connecticut.[1]				
Middle Atlantic:				
New York	Vocational schools	Courses in evening schools	do	Courses in evening schools.
New Jersey	State aid	State aid	State aid	State aid.
Pennsylvania	Courses in evening schools	Nothing	Courses in evening schools	Courses in evening schools.
East North Central:				
Ohio	Not reported	Not reported	Not reported	Not reported.
Indiana	Provides training for persons over 17 years of age.	Nothing	Provides training for persons over 17 years of age.	Provides training for persons over 17 years of age.
Illinois.[1]				
Michigan	Six cities provide for it.	Not reported	Not reported	Six cities provide for it.
Wisconsin	Thirty cities provide for it	Nothing	Nothing	Thirty cities provide for it
West North Central:				
Minnesota	Courses in the State University	Courses in the State University	Courses in the State University	Courses in the State University.
Iowa	Nothing	Classes in a few schools	Nothing	Nothing.
Missouri	Beginning in 2 cities	Beginning in 2 cities	Beginning in 2 cities	Beginning in 2 cities.
North Dakota	Nothing	Nothing	Nothing	Nothing.

South Dakota	do	do	do	Do.
Nebraska	Not reported	Not reported	Not reported	One school.
Kansas	Nothing	Nothing	Nothing	Nothing.
South Atlantic:				
Delaware	do	do	do	Do.
Maryland	Baltimore makes provision for it	Not reported	Not reported	Not reported.
Virginia	Two cities provide for it	Two cities provide for it	Two cities provide for it	Two cities provide for it.
West Virginia	Nothing	Nothing	Nothing	Nothing.
North Carolina	do	do	do	Do.
South Carolina	do	do	do	Do.
Georgia	do	do	do	Do.
Florida	Not reported	Not reported	Not reported	Not reported.
East South Central:				
Kentucky	do	do	do	Do.
Tennessee	Nothing	Nothing	Nothing	Nothing.
Alabama	Not reported	Not reported	Not reported	Not reported.
Mississippi	Nothing	Nothing	Nothing	Nothing.
West South Central:				
Arkansas	do	do	do	Do.
Louisiana	Not reported	Not reported	Not reported	Not reported.
Oklahoma	Nothing	Nothing	Nothing	Nothing.
Texas	Not reported	Not reported	Not reported	Not reported.
Mountain:				
Montana	Nothing	Nothing	Nothing	Nothing.
Idaho	do	do	do	Do.
Wyoming	do	do	do	Do.
Colorado	do	do	do	Do.
New Mexico	Not reported	Three special schools	Not reported	Not reported.
Arizona	Nothing	Nothing	Nothing	Nothing.
Utah	Not reported	Not reported	Not reported	Not reported.
Nevada.[1]				
Pacific:				
Washington	State aid	Courses in high schools	Nothing	Courses in high and elementary schools.
Oregon	City provides for it	City provides for it	City provides for it	City provides for it.
California	Two cities have special schools	A few special schools	Nothing	Not reported.

[1] Schedule not returned.

Geographical divisions and States.	State provides aid.	Kinds of vocational education for which the State provides aid.	Amount of money appropriated by State.	Conditions under which State aid is offered.
New England:				
Maine	Yes	Trades, industries, agricultural, commercial education, household arts.	Not reported	Not reported.
New Hampshire	No			
Vermont	Yes	Pedagogy, agricultural, domestic science, normal training.	$14,000	Approved courses must be maintained and approved instructors employed.
Massachusetts	Yes	Industrial, agricultural, household arts	Not reported	State board of education passes on all details of organization.
Rhode Island.[1]				
Connecticut.[1]				
Middle Atlantic:				
New York	Yes	Industrial, agricultural, mechanic arts, part-time evening schools.	do	Enrollment of at least 15 students and maintenance of a course of study approved by the commissioner of education.
New Jersey	Yes	Industrial, agricultural, household arts	$80,000	Commissioner and State board of education approve of work of subsidized schools.
Pennsylvania	Yes	Trades, industries, agriculture, and household arts.	$70,000	State aid given when the schools have been approved as to organization.
East North Central.				
Ohio	Yes	Agriculture	$12,000 annually	Not reported.
Indiana	Yes	Industrial, agricultural, household arts	Special tax 1 cent on $100.	Given to such vocational schools as are approved by State board of education.
Illinois.[1]				
Michigan	No			
Wisconsin	Yes	Agricultural, household arts, trades, industries, and all continuation work.	$360,000 annually	Under the supervision of the State department of public instruction.
West North Central:				
Minnesota	Yes	Agriculture, home economics, manual training.	$118,272.68	In the public schools $2,500 or $1,800 to each school on condition that the school expends one-third more.
Iowa	Yes	Mechanical arts, agriculture, household arts	$254,750 annually	For normal-training high school, on condition that household arts be taught to not less than 20 students in each school.
Missouri	Yes	Agricultural and training of teachers	$150,000 annually	State superintendent of public schools approves of work of subsidized schools.
North Dakota	Yes	Not reported	$12,500	Not reported.
South Dakota	No			
Nebraska	Yes	Agricultural and normal training	$140,000	Do.
Kansas	Yes	Trades, industries, agriculture, and household arts.	$125,000	That schools be accredited and offer work according to regulations of State board of education.
South Atlantic:				
Delaware	No			
Maryland	Yes	Trades, industries, commercial education, agriculture, and household arts.	$3,700	Enrollment of pupils and number of teachers employed supervised by State.
Virginia	Yes	Agricultural, household arts, manual training	$32,000 annually	Course of study approved by State.
West Virginia	Yes	Agriculture	Not reported	Not reported.

North Carolina	Yes	Agriculture and household arts	$2,500 annually	County to expend an equal amount.
South Carolina	Yes	Industrial	Not reported	Not reported.
Georgia	Yes	Technical and agricultural	$180,000	None specified.
Florida	Yes	Corn clubs and canning clubs	$3,000	State board of control appoints persons to organize and direct the clubs.
East South Central:				
Kentucky	Not reported	Not reported	Not reported	Not reported.
Tennessee	Yes	Manual training, agriculture, household arts	Maximum $1,500	Do.
Alabama	Not reported	Not reported	Not reported	Do.
Mississippi	Yes	Agriculture and domestic science	$175,000	Do.
West South Central:				
Arkansas	Not reported	Not reported	Not reported	Do.
Louisiana	Not reported	do	do	Do.
Oklahoma	No			
Texas	Yes	Normal training, domestic science, agricultural.	Not reported	$1 State aid for every $1 raised locally, up to $2,000.
Mountain:				
Montana	No			
Idaho	No			
Wyoming	Not reported	Not reported	Not reported	Not reported.
Colorado	Yes	All kinds	do	Do.
New Mexico	No			
Arizona	Yes	Agriculture, mining, manual training, domestic science.	Not to exceed $2,500	Schools having industrial courses to expend annually an amount equal to that received from State.
Utah	Not reported	Not reported	Not reported	Not reported.
Nevada.[1]				
Pacific:				
Washington	No			
Oregon	No			
California	No			

TABLE 3.—REASONS GIVEN BY STATES FOR FAVORING OR OPPOSING NATIONAL GRANTS FOR VOCATIONAL EDUCATION.

Geographical divisions and States.	Attitude toward National grants.	Reason given for attitude.
New England:		
Maine	Not reported	
New Hampshire	Favorable	Because education is a matter of national importance.
Vermont	do	It would stimulate the interest of the community and help the State to do what it is unable to do for itself.
Massachusetts	do	State and local funds are not adequate.
Rhode Island.[1]		
Connecticut.[1]		

[1] Schedule not returned.

TABLE 3.—REASONS GIVEN BY STATES FOR FAVORING OR OPPOSING NATIONAL GRANTS FOR VOCATIONAL EDUCATION—Concluded.

Geographical divisions and States.	Attitude toward National grants.	Reason given for attitude.
Middle Atlantic:		
New York	Favorable	In order to give different States an equal chance.
New Jersey	do	It would extend opportunities to men and women to prepare for industrial and household duties.
Pennsylvania	do	It would produce efficiency in all three kinds of schools, benefiting the immigrants who will migrate to other States, thereby benefiting the nation at large.
East North Central:		
Ohio	Not reported	
Indiana	Favorable	State needs help to secure properly trained teachers, directors, and superintendents.
Illinois.[1]		
Michigan	Unfavorable	The National Government should not interfere with public education or educational systems. What would help one State might hinder another.
Wisconsin	Doubtful	
West North Central:		
Minnesota	Favorable	In order to continue and expand the plan started of industrial and vocational training in connection with the public schools and established institutions.
Iowa	do	For greatly improved method in farming, greater skill, and diversified knowledge of mechanics and household arts.
Missouri	do	In most cases towns are unable to give any vocational training within the schools.
North Dakota	do	No reason given.
South Dakota	do	To encourage State enterprise in this direction. The State needs the stimulus of the National Government.
Nebraska	do	It would help the rising generation to cope with present-day conditions.
Kansas	do	For the sake of greater efficiency in production and economy in consumption and therefore greater prosperity for country.
South Atlantic:		
Delaware	do	It would start a belief and interest in such education.
Maryland	Not reported	
Virginia	Favorable	The National Government should carry part of the load of vocational education because many rural communities can not afford it.
West Virginia	do.	In order to lighten the burden of taxation that is now imposed on the people.
North Carolina	Not reported	
South Carolina	Favorable	Federal aid would stimulate local effort and increase local facilities. The State's dual system of schools for white and colored imposes a financial burden.
Georgia	do	Large proportion of the farming class and difficulty in furnishing education of all kinds to the thinly populated rural sections.
Florida	do	State and local school funds are not sufficient to maintain vocational schools.
East South Central:		
Kentucky	do	No reason given.
Tennessee	do	On account of inertia of the people in starting it themselves.
Alabama	do	No reason given.
Mississippi	do	Do.
West South Central:		
Arkansas	Not reported	
Louisiana	Favorable	Do.

Oklahoma	do	Do.
Texas	do	Do.
Mountain:		
Montana	do	To encourage the people to take hold of the work.
Idaho	do	This young and rapidly growing State, whose taxes are high, needs help to fit the children for efficient citizenship.
Wyoming	Not reported	
Colorado	Favorable	No reason given.
New Mexico	do	
Arizona	do	Our schools already have the maximum rate of taxation and are still unable to provide adequately for vocational education.
Utah	Doubtful	State is sparsely populated and spends all it can afford without undertaking any vocational education.
Nevada.[1]		
Pacific:		
Washington	Favorable	Because our State wealth is not so great as in many other States and it can not afford additional burden of vocational education.
Oregon	Not reported	
California	Favorable	Would make it easier to interest State authorities in the work.

TABLE 4.—WHAT THE STATES ARE DOING TO PREPARE TEACHERS FOR VOCATIONAL EDUCATION FOR PERSONS OVER FOURTEEN YEARS OF AGE.

Geographical divisions and States.	Trades and industries.	Commercial pursuits.	Agriculture.	Household arts.
New England:				
Maine	Some provision is made	Nothing	Some provision is made	Special provision is made.
New Hampshire	Nothing	do	Nothing	Nothing.
Vermont	do	Not reported	Not reported	Not reported.
Massachusetts	do	One normal school specializes in this.	Massachusetts Agricultural College	Course in normal school.
Rhode Island.[1]				
Connecticut.[1]				
Middle Atlantic:				
New York	Preparing at normal college and school.	Day course in normal school	State College of Agriculture, two day courses in two universities, and a normal school.	Day courses, normal college, State college, two universities
New Jersey	Nothing	Courses in State normal school	Courses in State College of Agriculture.	Courses in State normal school.
Pennsylvania	do	Nothing	Nothing	Nothing.

[1] Schedule not returned.

TABLE 4.—WHAT THE STATES ARE DOING TO PREPARE TEACHERS FOR VOCATIONAL EDUCATION FOR PERSONS OVER FOURTEEN YEARS OF AGE—Concluded.

Geographical divisions and States.	Trades and industries.	Commercial pursuits.	Agriculture.	Household arts.
East North Central:				
Ohio	Not reported	Not reported	Not reported	Not reported.
Indiana	Nothing	do	Courses in university	Courses in normal schools and universities.
Illinois.[1]				
Michigan	Courses in university, agricultural college, normal school.	Courses in university, agricultural college, and normal school.	Courses in university, agricultural college, normal school.	Courses in university, agricultural college, normal school.
Wisconsin	Courses in University of Wisconsin, State institute, normal school.	Courses in University of Wisconsin, State institute, normal school.	Courses in University of Wisconsin State institute, normal school.	Courses in University of Wisconsin, State institute, normal school.
West North Central:				
Minnesota	Nothing	Nothing	Special department connected with College of Agriculture.	Special department connected with College of Agriculture.
Iowa	State College, University, Teachers' College, normal school.	do	State college, university, teachers' college, normal school.	State college, university, teachers' college, normal school.
Missouri	Nothing	do	Nothing	Nothing.
North Dakota	Not reported	Not reported	Training school of agriculture	Not reported.
South Dakota	do	do	Courses for teachers in agricultural college and four State normal schools.	Courses for teachers in agricultural college and four State normal schools.
Nebraska	do	do	Not reported	Not reported.
Kansas	Normal training, normal school	Normal school	State agriculture college	Normal training and normal school.
South Atlantic:				
Delaware	Not reported	Not reported	Summer school	Not reported.
Maryland	Courses in three normal schools, agricultural college.	Courses in three normal schools, agricultural college.	Courses in three normal schools, agricultural college.	Courses in three normal schools, agricultural college.
Virginia	Courses in normal school	Business colleges and public high schools under private control.	Courses in college and normal schools	Courses in college and normal schools.
West Virginia	Courses in college of engineering of State university.	Courses in the State university	Courses in College of Agriculture, six State normal schools, one preparatory.	Courses in College of Agriculture, six State normal schools, one preparatory.
North Carolina	Not reported	Not reported	Not reported	Not reported.
South Carolina	Clemso Agricultural College, Winthrop Normal, State colored college.	Clemso Agricultural College, Winthrop Normal, State colored college.	Nothing	Winthrop College receives money for this purpose.
Georgia	Appropriation to School of Technology.	Nothing	Appropriation to State College of Agriculture, eleven district agricultural schools.	Nothing.
Florida	Summer Normal Teachers' Training School.	Not reported	Not reported	Summer Normal Teachers' Training School.
East South Central:				
Kentucky	Not reported	do	do	Not reported.
Tennessee	Courses in engineering shopwork	Very general courses	Regular courses in State union	Regular courses in State union.

Alabama	Not reported	Not reported	Not reported	Not reported.
Mississippi	do	do	College for agriculture	Courses in college.
West South Central:				
Arkansas	do	do	Not reported	Not reported.
Louisiana	State university, normal and industrial schools.	do	do	Do.
Oklahoma	Nothing	Courses offered in preparatory schools.	Courses in all schools	Courses in all schools.
Texas	State aid granted for lectures, etc.	State aid granted for lectures, etc.	State aid granted for lectures, etc.	State aid granted for lectures, etc.
Mountain:				
Montana	Not reported	Not reported	Not reported	Agriculture college and universities.
Idaho	Nothing	Nothing	Courses in normal school	Courses in normal schools.
Wyoming	Not reported	Not reported	Not reported	Not reported.
Colorado	do	do	do	Do.
New Mexico	do	do	do	Do.
Arizona	Nothing	Nothing	Nothing	Nothing.
Utah	Not reported	Not reported	Not reported	Not reported.
Nevada.[1]				
Pacific:				
Washington	Courses in normal schools and State college.	General courses in normal schools and State college.	General courses in normal schools and State colleges.	General courses in normal schools and State colleges.
Oregon	Courses for teachers in agricultural and State colleges.	Courses for teachers in agricultural and State colleges.	Courses for teachers in agricultural college.	Courses for teachers in agricultural college.
California	Not reported	Not reported	Not reported	Not reported.

TABLE 5.—REASONS GIVEN FOR THE NEED OF NATIONAL GRANTS TO AID IN PREPARING TEACHERS FOR ANY OF THE FORMS OF VOCATIONAL EDUCATION.

Geographical divisions and States.	Is national aid needed?	Reasons given and remarks.
New England:		
Maine	Not reported	
New Hampshire	Yes	No reason given.
Vermont	Yes	Do.
Massachusetts	Yes	National grants would standardize the work and make it efficient; also would stimulate State activities along those lines.
Rhode Island.[1]		
Connecticut.[1]		
Middle Atlantic:		
New York	Yes	The State can hardly say it actually needs it, but there is one justification for seeking national aid and that is the one main purpose of any aid, National or State—to "even things up."
New Jersey	Yes	No reason given.
Pennsylvania	Yes	It will enable teachers to be trained properly and insure proper standards.
East North Central:		
Ohio	Yes	Because money from the Government to train teachers for vocational education would benefit every home in the State.

[1] Schedule not returned.

TABLE 5.—REASONS GIVEN FOR THE NEED OF NATIONAL GRANTS TO AID IN PREPARING TEACHERS FOR ANY OF THE FORMS OF VOCATIONAL EDUCATION—Concluded.

Geographical divisions and States.	Is national aid needed?	Reasons given and remarks.
East North Central—Concluded.		
Indiana	Yes	Because we lack necessary means. Need help in problem of training vocational teachers; we do not know how to do it.
Illinois.[1]		
Michigan	No	I do not think aid is needed at present further than is already given.
Wisconsin	Doubtful	Our institutions are not in dire need of aid, although they have not got at the problem as determinedly as the will in the near future.
West North Central:		
Minnesota	Yes	No reason given.
Iowa	Yes	Do.
Missouri	Yes	Because we can not make our schools as efficient as we want them.
North Dakota	Not reported	
South Dakota	Yes	To stimulate the State to do more in this line of work in education.
Nebraska	Yes	There is a demand for well-trained teachers in the various lines of vocational education and the State does not feel that it can afford to incur the added expense.
Kansas	Yes	It would doubtless be of great advantage to us.
South Atlantic:		
Delaware	Yes	It would help by emphasizing the importance of the work.
Maryland	Yes	Federal aid will hasten the introduction of industrial instruction.
Virginia	Yes	State needs all the aid it can get.
West Virginia	Yes	Because there is no adeqate fund to support the program mapped out by the State.
North Carolina	Not reported	
South Carolina	Yes	Such grants would raise the standard of education among vocational teachers.
Georgia	Yes	The biracial situation and rural population in the South generally is the reason for national aid. Not fair for the South to assume entire burden of negro education.
Florida	Yes	We have but few teachers trained for those subjects and our funds do not justify the training of others.
East South Central:		
Kentucky	Not reported	
Tennessee	Yes	Without help, backward educational developments shut off any advancement for a great length of time.
Alabama	Not reported	
Mississippi	Yes	Because the State is not able to do it all.
West South Central:		
Arkansas	Not reported	
Louisiana	Not reported	
Oklahoma	Yes	No reason given.
Texas	Doubtful	It is doubtful whether the national grant should assist the State, although better equipment for training vocational teachers is needed.
Mountain:		
Montana	Yes	No reason given.
Idaho	Yes	Shortage of teachers for such work. More training schools needed.
Wyoming	Not reported	
Colorado	Not reported	
New Mexico	Not reported	
Arizona	Yes	Financial limitations.

Utah	Not reported	
Nevada.[1]		
Pacific:		
Washington	No	Higher institutions of State can take care of the problem.
Oregon	Not reported	
California	Not reported	

TABLE 6.—PREFERENCE OF STATE SUPERINTENDENTS FOR FIRST OR SECOND PLAN OF CONTRIBUTIONS BY NATIONAL GOVERNMENT FOR AGRICULTURAL EDUCATION.[2]

State.	Plan favored.[2]	Reason given and remarks.
New England:		
Maine	Plan 2	Agricultural education should not begin earlier than the secondary or continuation school age.
New Hampshire	Plan 2	No reason given.
Vermont	Plan 1	Because vocational training should begin at 12 years of age.
Massachusetts	Plan 2	The grants should be used for the promotion of agricultural education. Thoroughly qualified teachers are needed.
Rhode Island	Plan 2	No reason given.
Connecticut.[1]		
Middle Atlantic:		
New York	Plan 2	It fits in with the present system of agricultural education as instruction is given to children over 14 years of age who are attending union free schools, while agriculture can not be taught to younger children.
New Jersey	Plan 2	No reason given.
Pennsylvania	Plan 2	The State needs teachers rather than supervisors.
East North Central:		
Ohio	Plan 2	The regular schools need the help more and plan 2 would reach them.
Indiana	Plan 2	Experts in vocational education located in a few centers in each State are much needed.
Illinois	Plan 2	No reason given.
Michigan	Neither	Opposed to national grants.
Wisconsin	Plan 2	Provided the supervision is placed under the State department of public instructions.
West North Central:		
Minnesota	Plan 1	No reason given.
Iowa	Plan 1	There is a great demand for competent instructors of agriculture in consolidated schools in Iowa.
Missouri	Both	Measure should be so framed that State authorities may use part of money for supervisors and the rest for part payment of teachers.
North Dakota	Plan 1	No reason given.
South Dakota	Plan 1	Plan 2 would split the amount too much. National support will encourage State to pay for regular teachers.
Nebraska	Plan 2	No reason given.
Kansas	Plan 1	Do.

[1] Schedule not returned.

[2] Plan 1 provides for grants to the State to be disbursed by State authorities in part payment of the salaries of expert supervisors of agriculture, whose duty it would be to supervise the instruction in agriculture in elementary and high schools in rural districts.

Plan 2 provides for grants to the State to be disbursed by State authorities in part payment of instruction in agricultural and rural high schools to children over 14 years of age.

TABLE 6.—PREFERENCE OF STATE SUPERINTENDENTS FOR FIRST OR SECOND PLAN OF CONTRIBUTIONS BY NATIONAL GOVERNMENT FOR AGRICULTURAL EDUCATION—Concluded.

State.	Plan favored.	Reason given and remarks.
South Atlantic:		
Delaware	Plan 1	If grants to the State will be used to make agriculture a regular study they will benefit more children, especially those below high-school age.
Virginia	Plan 2	No reason given.
Maryland	Plan 1	Do.
West Virginia	Plan 2	Do.
North Carolina	Plan 2	Do.
South Carolina	Plan 2	Regular teachers of agriculture on the ground would emphasize the importance of the study.
Georgia	Plan 2	Supervisors would not do the work as accurately and well as regular grade teachers.
Florida	Plan 1	It insures expert supervisors or instructors; and does not limit use of such funds for benefit of children over 14 years of age.
East South Central:		
Kentucky	Plan 1	It would result in reaching more people more effectively.
Tennessee	Plan 1	It would benefit rural population more than plan 2, because expert supervisors are needed and also because it would reach children under 14 years of age.
Alabama	Plan 1	It would come much nearer making the practical teaching of agriculture general and far-reaching in its extent and effect, and it is better adapted to the conditions of rural Alabama.
Mississippi	Plan 2	Our agricultural high schools are supported by county tax levy, supplemented by State appropriations. A grant from United States Government would be a great help.
West South Central:		
Arkansas	Plan 1	No reason given.
Louisiana	Plan 1	Do.
Oklahoma	Plan 1	It would reach the children under 14 years of age, who are more likely to be in school and who benefit by the instruction as much as do the older children.
Texas	Plan 1	No reason given.
Mountain:		
Montana	Plan 1	The agricultural supervisor would have oversight over rural schools in general, and that would tend to improve the schools.
Idaho	Plan 2	No reason given.
Wyoming	Plan 2	Do.
Colorado	Plan 1	It is in line with the present movement to secure more careful supervision of the work of rural schools in all departments.
New Mexico	Plan 1	It would be of more practical value for this State.
Arizona	Plan 1	It would emphasize the importance of agricultural instruction for children under 14.
Utah	Plan 2	A greater number of students in agriculture could be reached through this plan.
Nevada	Plan 2	The State is populated so sparsely that plan 1 would involve prohibitive expense, while there are high schools in each county available for service under plan 2.
Pacific:		
Washington	Plan 1	No reason given.
Oregon.[1]		
California	Plan 1	It is harder to get money for expert supervisors than for teaching.

[1] Schedule not returned.

TABLE 7.—EMPLOYEES, SOURCES OF SUPPLY OF WORKERS, APPRENTICESHIP, SCHOOLING OF WORKERS, AND ATTITUDE TOWARD NATIONAL AID FOR VOCATIONAL EDUCATION, FROM INFORMATION FURNISHED BY EMPLOYERS.

A.—EMPLOYEES.

Establishment number.	Articles manufactured.	Number of employees.																			
		All employees.						Skilled employees.					Semiskilled employees.					Unskilled employees.				
		Total.	Male.	Female.	Under 16 years of age.			Total.	Male.	Female.	Years of age.		Total.	Male.	Female.	Years of age.		Total.	Male.	Female.	Years of age.	
					Total	Male.	Female.				Under 16.	Over 16.				Under 16.	Over 16.				Under 16.	Over 16.
1	Shoes	925	585	340	54	30	24	750	468	282	.....	750	121	87	34	.....	121	54	30	24	54	.....
2	Do	4,807	3,081	1,726	207	121	86	3,056	2,072	984	.....	3,056	772	444	328	.....	772	979	565	414	207	772
3	Boots and shoes	1,718	1,210	508	18	10	8	1,400	1,000	400	.....	1,400	300	200	100	.....	300	18	10	8	18	.....
4	Shoes	1,750	1,000	750	15	10	5	1,115	639	476	.....	1,115	400	227	173	.....	400	235	134	101	15	220
5	Jewelry, gold, silver, plate	288	160	128	11	4	7	174	96	78	1	173	105	57	48	10	95	9	7	2	.....	9
6	Jewelry, gold, 10K to 14K	79	63	16	.....	.....	.....	43	40	3	.....	43	.....	.....	.....	.....	.....	36	23	13	.....	36
7	Solid gold jewelry	90	78	12	.....	.....	.....	63	58	5	.....	63	26	19	7	.....	26	1	1	.....	.....	1
8	Silver and silver-plated wares and architectural and art bronze goods	1,500	1,400	100	3	3	.....	1,150	1,050	100	.....	1,150	150	150	.....	.....	150	200	200	.....	3	197
9	Jewelry and silverware	400	275	125	5	5	.....	275	250	25	.....	275	45	20	25	.....	45	80	5	75	5	75
10	Automobiles	7,000	7,000	.....	.....	.....	.....	4,000	4,000	.....	.....	4,000	1,500	1,500	.....	.....	1,500	1,500	1,500	.....	.....	1,500
11	Do	14,000	13,800	200	6	6	.....	2,800	2,800	.....	.....	2,800	9,000	8,800	200	.....	9,000	2,200	2,200	.....	.....	2,200
12	Motor vehicles	3,500	3,500	.....	.....	.....	.....	2,625	2,625	.....	.....	2,625	700	700	.....	.....	700	175	175	.....	.....	175
13	Mechanical transmission of power machinery, indestructible trunks	1,550	1,500	50	.....	.....	.....	388	338	50	.....	388	775	775	.....	.....	775	387	387	.....	.....	387
14	Marine engines and cast-iron cylinders	1,000	1,000	.....	.....	.....	.....	200	200	.....	.....	200	600	600	.....	.....	600	200	200	.....	.....	200
15	Boilers, tanks, smokestacks, elevators, and sprinkler tanks	50	50	.....	.....	.....	.....	10	10	.....	.....	10	20	20	.....	.....	20	20	20	.....	.....	20
16	Boilers, tanks, and stacks	23	23	.....	.....	.....	.....	9	9	.....	.....	9	5	5	.....	.....	5	9	9	.....	.....	9
17	Gasoline and kerosene engines	135	135	.....	.....	.....	.....	45	45	.....	.....	45	45	45	.....	.....	45	45	45	.....	.....	45
18	Steel casting for railway freight cars	1,625	1,625	.....	.....	.....	.....	125	125	.....	.....	125	800	800	.....	.....	800	700	700	.....	.....	700
19	Electric ignition apparatus for gasoline engines, switches, etc.	60	35	25	.....	.....	.....	3	3	.....	.....	3	5	5	.....	.....	5	52	27	25	.....	52
20	Electrical apparatus for generation, control, and utilization of electric power	8,854	8,032	822	58	58	.....	2,570	2,570	.....	.....	2,570	1,786	1,786	.....	.....	1,786	4,498	3,676	822	58	4,440

TABLE 7.—EMPLOYEES, SOURCES OF SUPPLY OF WORKERS, APPRENTICESHIP, SCHOOLING OF WORKERS, AND ATTITUDE TOWARD NATIONAL AID FOR VOCATIONAL EDUCATION, FROM INFORMATION FURNISHED BY EMPLOYERS—Continued.

A.—EMPLOYEES—Concluded.

Establishment number.	Articles manufactured.	Number of employees.																			
		All employees.						Skilled employees.					Semiskilled employees.					Unskilled employees.				
		Total.	Male.	Female.	Under 16 years of age.			Total	Male.	Female.	Years of age.		Total.	Male.	Female.	Years of age.		Total.	Male.	Female.	Years of age.	
					Total.	Male.	Female.				Under 16.	Over 16.				Under 16.	Over 16.				Under 16	Over 16.
21	Cotton duck	317	200	117	82	40	42	70	45	25	.....	70	120	75	45	20	100	127	80	47	62	65
22	Knitting yarns	290	160	130	40	18	22	175	100	75	.....	175	90	50	40	15	75	25	10	15	25	.....
23	Indigo blue denims	2,389	1,664	725	140	86	54	157	157	.....	.....	157	929	679	250	.....	929	1,303	828	475	140	1,163
24	Pianos	198	198	.....	1	1	.....	150	150	.....	.....	150	20	20	.....	.....	20	28	28	.....	1	27
25	Do	120	119	1	.....	.....	.....	108	107	1	.....	108	.....	.....	.....	.....	.....	12	12	.....	.....	12
26	Player pianos	350	350	.....	.....	.....	.....	88	88	.....	.....	88	245	245	.....	.....	245	17	17	.....	.....	17
27	General line of furniture	559	555	4	20	20	.....	200	200	.....	.....	200	204	200	4	.....	204	155	155	.....	20	135
28	Household furniture	100	100	.....	.....	.....	.....	35	35	.....	.....	35	30	30	.....	.....	30	35	35	.....	.....	35
29	Paper	5,850	5,800	50	25	25	.....	1,520	1,520	.....	.....	1,520	820	820	.....	.....	820	3,510	3,460	50	25	3,485
30	Paper and paper specialties	550	325	225	3	3	.....	50	50	.....	.....	50	475	250	225	.....	475	25	25	.....	3	22
31	Miscellaneous advertising, printing	228	183	45	8	6	2	150	139	11	.....	150	40	17	23	.....	40	38	27	11	8	30
32	Printing, binding, lithographing, and photoengraving	1,200	880	320	.....	.....	.....	1,120	800	320	.....	1,120	.....	.....	.....	.....	.....	80	80	.....	.....	80
33	Designing, printing, binding	140	80	60	.....	.....	.....	70	40	30	.....	70	.....	.....	.....	.....	.....	70	40	30	.....	70
34	Stoves and ranges	250	250	.....	8	8	.....	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
35	Stoves, ranges, gas stoves, and furnaces	1,200	1,200	.....	50	50	.....	900	900	.....	.....	900	300	300	.....	50	250	.....	.....	.....	.....	.....
36	Stoves, ranges, and heaters	350	350	.....	.....	.....	.....	250	250	.....	.....	250	25	25	.....	.....	25	75	75	.....	.....	75
37	Dishes	1,850	1,225	625	22	11	11	910	730	180	.....	910	.....	.....	.....	.....	.....	940	495	445	22	918
38	China	143	88	55	16	10	6	52	41	11	.....	52	50	26	24	5	45	41	21	20	11	30
39	Pottery	140	85	55	.....	.....	.....	75	50	25	.....	75	30	.....	30	.....	30	35	35	.....	.....	35
40	Women's cloaks, suits, and skirts	1,200	384	816	.....	.....	.....	480	120	360	.....	480	600	240	360	.....	600	120	24	96	.....	120
41	Wood split pulleys	265	265	.....	.....	.....	.....	20	20	.....	.....	20	228	228	.....	.....	228	17	17	.....	.....	17
42	Furniture	250	250	.....	5	5	.....	100	100	.....	.....	100	100	100	.....	.....	100	50	50	.....	5	45
43	Do	200	200	.....	2	2	.....	100	100	.....	.....	100	50	50	.....	.....	50	50	50	.....	2	48

B.—SOURCES OF SUPPLY OF WORKERS.

Establishment number.	Sources.	Do you train your own workmen?	If workers are trained by organization, how is the training done?	Do skilled workers come from Europe?	Wages per day.			Proportion of workers receiving—		
					Minimum.	Medium.	Maximum.	Minimum wage.	Medium wage.	Maximum wage.
								Per ct.	*Per ct.*	*Per ct.*
1	Trained in shop	Yes	Trained in shop	No	$0.83	$2.25	$3.33	15	63	22
2	General labor market and trained in shop	Yes	do	To some extent	1.00	2.00	5.00	37½	50	12½
3	General labor market	Partially	do	Yes	1.00	2.50	5.00	20	70	10
4	Trained in shop	Yes	do	No	1.20	2.00	3.00	17	64	19
5	Do	Yes	do	No	.83⅓	2.00	5.00	20	79	1
6	General labor market	Yes	Apprenticeship system	Yes	[2].15	[2].35	[2].70	20	50	30
7	Trained in shop	Yes	Trained in shop	Yes	1.10	3.00	5.00	4	86	10
8	Apprenticeship system	Yes	Apprenticeship system	No	.50	2.50	11.50	5	90	5
9	Trained in shop	Yes	Trained in shop	To some extent	.83	4.50	10.00	(1)	(1)	(1)
10	General labor market	Partially	Apprenticeship system	No	2.25	3.00	5.50	20	65	15
11	Trained in shop	Yes	do	No	2.34	(1)	5.84	30	40	30
12	General labor market	Yes	Trained in shop	No	[2].12	[2].40	[2].50	39	1	60
13	Trained in shop	Yes	Apprenticeship system	To some extent	1.00	2.50	4.00	1	97	2
14	General labor market	No		Yes	[2].20	[2].28	[2].47½	25	60	15
15	Not reported	No		(1)	1.60	3.90	5.00	40	40	20
16	Trained in shop	Yes	Trained in shop	No	1.75	2.35	3.20	40	30	30
17	Do	No	do	No	1.75	2.46	3.00	10	25	65
18	Not reported	Yes	do	No	1.75	2.75	4.50	6	93⅓	⅔
19	General labor market	Yes	do	(1)	1.00	1.50	2.00	25	65	10
20	General labor market and trained in shop	Yes	Apprenticeship system	Yes	.97	2.44	7.00	(1)	(1)	(1)
21	General labor market	Yes	Trained in shop	No	.50	1.66⅔	3.50	3	14	83
22	Do	Yes	do	No	.40	1.50	3.00	(1)	(1)	(1)
23	Not reported	(1)	(1)	(1)	.75	1.50	2.25	5	85	10
24	Trained in shop	Partially	Trained in shop	Yes	1.50	3.00	5.00	10	86	4
25	General labor market and in other shops	Yes	do	No	1.00	3.00	5.83⅓	10	85	5
26	General labor market	Yes	do	Yes	1.50	2.75	4.00	10	75	15
27	Trained in shop	Yes	do	No	.75	2.00	4.00	8	90	2
28	General labor market and in other shops	Partially	(1)	Yes	1.50	2.25	3.00	10	80	10
29	Trained in shop	Yes	Trained in shop	No	1.80	2.25	4.24	30	70	.....
30	General labor market	Yes	do	No	1.15	2.00	5.00	5	85	10
31	Trained in shop	Yes	do	No	1.00	2.50	6.50	(1)	(1)	(1)
32	General labor market and in other shops	Yes	Apprenticeship system	To some extent	[3] 2.00	[3] 3.50	[3] 7.50	25	65	10
33	General labor market	Yes	Trained in shop	Yes	1.00	4.00	8.00	2	94	4
34	Trained in shop	Yes	do	No	.75	2.75	5.00	(1)	(1)	(1)
35	Apprenticeship system	Yes	Apprenticeship system	Yes	2.50	4.00	6.00	25	35	40
36	Trained in shop	Yes	do	No	1.75	5.00	9.00	16	67	17

[1] Not reported. [2] Per hour. [3] For men. Women, $1, $1.83⅓, $4.16⅔.

TABLE 7.—EMPLOYEES, SOURCES OF SUPPLY OF WORKERS, APPRENTICESHIP, SCHOOLING OF WORKERS, AND ATTITUDE TOWARD NATIONAL AID FOR VOCATIONAL EDUCATION, FROM INFORMATION FURNISHED BY EMPLOYERS—Continued.

B.—SOURCES OF SUPPLY OF WORKERS—Concluded.

Establishment number.	Sources.	Do you train your own workmen?	If workers are trained by organization, how is the training done?	Do skilled workers come from Europe?	Wages per day.			Proportion of workers receiving—		
					Minimum.	Medium.	Maximum.	Minimum wage.	Medium wage.	Maximum wage.
								Per ct.	*Per ct.*	*Per ct.*
37	General labor market	Yes	Trained in shop	To some extent	1.10	3.00	6.00	(1)	(1)	(1)
38	Trained in shop	Yes	do	No	.75	1.75	3.50	13	62	25
39	Do	Yes	Apprenticeship system	To some extent	2.00	4.00	6.00	(1)	(1)	(1)
40	General labor market	Yes	Trained in shop	To some extent	[2] 1.00	[2] 3.33⅓	[2] 5.83⅓	17	75	8
41	Trained in shop	Yes	do	No	1.75	2.25	3.00	15	73	12
42	General labor market	Yes	do	No	1.50	2.20	3.00	10	80	10
43	Trained in shop	Partially	do	No	1.50	2.50	3.75	10	80	10

C.—APPRENTICESHIP.

Establishment number.	System of apprenticeship.		Number of apprentices.	Per cent of apprentices of total skilled workers.	Length of apprenticeship.	Are the apprentices required to take training outside of shop experience in—						Is there any trouble in getting apprentices?	Cause of trouble in getting apprentices.	Is there any trouble with union about apprenticeship?	Cause of trouble with union about apprenticeship.	In how far is old-time apprenticeship a satisfactory means of securing skilled workers?
	Is one operated?	Operated under trade agreement?				Correspondence schools?	Schools operated by company?	Part-time or continuation schools?	Cooperation with union?	Evening classes?	Any other way?					
1	No		None.													
2	No		None.									No				Inadequate.
3	Yes	Yes	20	2	(1)	No	No	No	No	No	No	No		Yes	(1)	Do.
4	No		None.													(1).
5	Yes	No	3	2	3 years	No	No	Yes	No	No	No	No		No		Inadequate.
6	No		3	90	4 years	No	No	No	No	No	No	No		No		Adequate.
7	No		3	4⅓	3 years	No	No	Yes	No	No	No	Yes	Boys unwilling to learn trade.	No		Inadequate.

8	No		23	2	Indeterminate.	No	No	No	No	No	No	No		No		Adequate.
9	No		9	2	do	No	No	No	No	No	No	Yes	Boys unwilling to learn trade.	(1)	(1)	Inadequate.
10	Yes	No	150	4	6,000 hours	No	(1)	(1)	No	No	Yes	Yes	do	No		Do.
11	Yes	No	200	1½	1 year	No	No	No	No	No	No	No				
12	No		None.													Adequate.
13	Yes	No	1	3	4 years	No	No	No	No	Yes	No	Yes	Low wages	No		Inadequate.
14	(1)	(1)	11	(1)	do	No	No	No	No	No	No	No				Do.
15	No		1	1	Indeterminate.	No	No	No	No	No	Yes	Yes	Boys unwilling to learn trade.	No		Adequate.
16	No		None.								No					
17	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1).
18	No	Yes	3	1	3 years	No	No	Yes	No	No	No	No		No		Inadequate.
19	No		None.									(1)	(1)			
20	Yes	No	240	8	4 years	No	Yes	No	No	Yes	No	No		No		Do.
21	No		None.													
22	No		None.	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	Do.
23	No		(1)	(1)	(1)	No	No	No	No	No	No	(1)	(1)	(1)	(1)	(1).
24	No		6	(1)	(1)	No	No	No	No	No	No	No		No		Adequate.
25	No		12	10	Indeterminate.	No	No	No	No	No	No	No		No		Do.
26	No		(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	No		No		(1).
27	No		(1)	(1)	(1)				(1)	(1)	(1)	Yes	Low wages	No		Adequate.
28	No		None.	(1)	(1)	No	No	No	No	No	No	Yes	Boys unwilling to learn trade.	No		Inadequate.
29	Yes	Partially	(1)	(1)	4 years	Yes	No	No	Yes	No	No	(1)	(1)	No		Adequate.
30	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1).
31	Yes	Yes	20	14	(1)	No	No	No	No	No	Yes	No		No		Inadequate.
32	Yes	No	135	12	7 years	No	Yes	No	No	No	Yes	No		No		Do.
33	Yes	No	8	5	Indeterminate.	No	No	No	No	No	No	No		No		Do.
34	Yes	Yes	(1)	(1)	4 years	No	No	No	(1)	(1)	No	No		Yes	Union limits number.	Do.
35	Yes	Yes	128	14.2	Indeterminate.	No	Yes	No	Yes	No	No	Yes	Boys unwilling to learn trade.	No		Do.
36	Yes	Yes	30	12	4 years	No	No	No	No	No	No	No		No		Do.
37	Yes	Yes	50	5	Indeterminate.	No	No	No	No	No	No	No		Yes	Union limits number.	Do.
38	Yes	Yes	4	8	do	No	Yes	Yes	No	No	No	Yes	Low wages	No		Do.
39	Yes	Yes	3	4	3 years	No	No	No	No	No	No	Yes	Union limits number	Yes	Union limits number.	Do.
40	No		8	1½	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1).
41	No													No		Inadequate.
42	No				(1)	(1)						Yes	Boys unwilling to learn trade.	No		Do.
43	No											Yes	Low wages	No		Do.

[1] Not reported.

[2] For men. Women, $1.15, $1.50, $4.

TABLE 7.—EMPLOYEES, SOURCES OF SUPPLY OF WORKERS, APPRENTICESHIP, SCHOOLING OF WORKERS, AND ATTITUDE TOWARD NATIONAL AID FOR VOCATIONAL EDUCATION, FROM INFORMATION FURNISHED BY EMPLOYERS—Continued.

D.—SCHOOLING OF WORKERS.

Establishment number.	What is the value to your workers of correspondence courses?	What is the value of industrial and trade schools for young persons 14 to 18 years of age, before entering industry?	Should such schools be public or private?	If public, should they be under public schools authority or under separate board?	Do you favor part-time schools for the training of your workers?	Would you be willing to make part-time arrangements for that purpose?	To what extent do your workers use evening classes?	Are these classes valuable?	Do you recognize the value of persons so trained by increasing their wages?
1	Doubtful	Not valuable	(1)	(1)	(1)	(1)	(1)	(1)	(1).
2	(1)	Valuable	Public	School board	No	No	(1)	Valuable	Yes.
3	(1)	do	do	Special board	Yes	Yes	Not at all	(1)	(1).
4	Not valuable	Not valuable	(1)	School board	Yes	Yes	do	(1)	(1).
5	(1)	do	(1)	(1)	Yes	Yes	Frequently	(1)	(1).
6	Valuable	Valuable	Public	School board	Yes	Yes	Not at all	Valuable	(1).
7	Doubtful	do	(1)	Special board	Yes	Yes	do	do	(1).
8	Valuable	do	Public	do	No	No	Frequently	do	Yes.
9	(1)	do	do	School board	No	Yes	Rarely	do	(1).
10	Valuable	do	do	Special board	Yes	No	Frequently	Not valuable	Yes.
11	(1)	Not valuable	Both	School board	Yes	No	(1)	Valuable	No.
12	(1)	Valuable	Public	Special board	No	No	(1)	Doubtful	No.
13	Valuable	do	do	do	Yes	Yes	Not at all	Valuable	(1).
14	do	do	do	do	Yes	Yes	Frequently	do	Yes.
15	do	do	Private	School board	Yes	Yes	Not at all	do	Yes.
16	(1)	(1)	do	do	No	No	do	(1)	(1).
17	Not valuable	(1)	Public	Special board	Yes	No	do	(1)	No.
18	Valuable	Doubtful	Private	School board	No	Yes	Rarely	(1)	No.
19	do	Not valuable	(1)	(1)	(1)	No	(1)	(1)	Yes.
20	Not valuable	(1)	Public	Special board	Yes	Yes	Frequently	Valuable	Yes.
21	Valuable	Valuable	Both	do	Yes	Yes	do	do	Yes.
22	(1)	do	Public	(1)	Yes	Yes	Rarely	do	(1).
23	Valuable	Not valuable	Both	(1)	No	No	(1)	(1)	(1).
24	(1)	Doubtful	(1)	(1)	(1)	(1)	Rarely	Not valuable	(1).
25	Valuable	Not valuable	Public	Special board	No	Yes	Not at all	(1)	Yes.
26	(1)	Valuable	do	do	No	No	(1)	(1)	(1).
27	Valuable	do	do	School board	Yes	(1)	Not at all	Not valuable	(1).
28	Doubtful	(1)	Both	do	Yes	Yes	Rarely	Valuable	No.
29	(1)	Valuable	do	do	(1)	(1)	Not at all	(1)	No.
30	Valuable	do	Public	Special board	Yes	Yes	Frequently	Valuable	Yes.
31	(1)	do	Both	do	Yes	Yes	Rarely	do	Yes.
32	(1)	Doubtful	(1)	do	Yes	Yes	Frequently	do	Yes.
33	Not valuable	Valuable	Public	do	Yes	Yes	Rarely	do	No.
34	do	do	do	School board	(1)	Yes	Not at all	do	(1).
35	(1)	do	do	Special board	No	No	(1)	do	(1).

36	Not valuable	(1)	(1)	(1)	(1)	(1)	Not at all	(1)	(1).
37	do	Valuable	Public	School board	Yes	No	do	(1)	(1).
38	Valuable	(1)	(1)	do	Yes	(1)	Frequently	Valuable	(1).
39	(1)	Valuable	Public	Special board	Yes	Yes	Not at all	do	(1).
40	(1)	do	(1)	School board	Yes	Yes	(1)	(1)	(1).
41	(1)	do	Public	(1)	(1)	(1)	Not at all	(1)	(1).
42	Valuable	do	do	(1)	Yes	Yes	Rarely	(1)	(1).
43	(1)	do	do	School board	Yes	Yes	do	Valuable	(1).

E.—ATTITUDE TOWARD NATIONAL AID FOR VOCATIONAL EDUCATION.

Establishment number.	Do you favor National grants for vocational education in—					Do you favor National grants for continuation classes to improve the general intelligence of the workers?
	Any schools?	Industrial and trade schools?	Part-time trade schools?	Part-time industrial schools?	Evening or trade continuation classes?	
1	(1)	(1)	(1)	(1)	(1)	(1).
2	Yes	Yes	No	No	Yes	No.
3	(1)	(1)	(1)	(1)	(1)	Yes.
4	Yes	Yes	Yes	Yes	Yes	Yes.
5	No	No	No	No	No	No.
6	Yes	No	Yes	No	No	Yes.
7	Yes	No	Yes	Yes	No	No.
8	Yes	No	No	No	Yes	Yes.
9	Yes	Yes	No	No	No	(1).
10	Yes	Yes	Yes	Yes	No	Yes.
11	Yes	No	No	No	Yes	Yes.
12	Yes	Yes	No	No	No	Yes.
13	No	No	No	No	No	No.
14	Yes	Yes	No	No	No	Yes.
15	Yes	No	No	No	Yes	Yes.
16	Yes	No	No	No	Yes	Yes.
17	Yes	No	No	No	Yes	(1).
18	(1)	(1)	(1)	(1)	(1)	Yes.
19	No	No	No	No	No	Yes.
20	Yes	No	Yes	Yes	Yes	Yes.
21	Yes	No	Yes	No	Yes	Yes.
22	(1)	(1)	(1)	(1)	(1)	Yes.
23	No	No	No	No	No	No.
24	No	No	No	No	No	(1).
25	Yes	Yes	No	No	No	Yes.
26	Yes	No	No	No	Yes	(1).
27	Yes	No	No	No	Yes	Yes.
28	Yes	No	No	Yes	Yes	Yes

[1] Not reported.

TABLE 7.—EMPLOYEES, SOURCES OF SUPPLY OF WORKERS, APPRENTICESHIP, SCHOOLING OF WORKERS, AND ATTITUDE TOWARD NATIONAL AID FOR VOCATIONAL EDUCATION, FROM INFORMATION FURNISHED BY EMPLOYERS—Concluded.

E.—ATTITUDE TOWARD NATIONAL AID FOR VOCATIONAL EDUCATION—Concluded.

Establishment number.	Do you favor National grants for vocational education in—					Do you favor National grants for continuational classes to improve the general intelligence of the workers?
	Any schools?	Industrial and trade schools?	Part-time trade schools?	Part-time industrial schools?	Evening or trade continuation classes?	
29	No	No	No	No	No	No.
30	Yes	Yes	Yes	Yes	(1)	Yes.
31	Yes	Yes	Yes	Yes	Yes	Yes.
32	No	No	No	No	No	No.
33	Yes	No	Yes	No	No	Yes.
34	Yes	(1)	Yes	Yes	(1)	(1).
35	Yes	Yes	Yes	Yes	Yes	Yes.
36	(1)	(1)	(1)	(1)	(1)	(1).
37	Yes	No	Yes	No	No	(1).
38	Yes	Yes	No	No	Yes	Yes.
39	Yes	No	Yes	No	Yes	(1).
40	No	No	No	No	No	No.
41	Yes	No	Yes	Yes	No	Yes.
42	Yes	Yes	Yes	Yes	Yes	Yes.
43	(1)	(1)	(1)	(1)	(1)	(1).

TABLE 8.—INFORMATION DERIVED FROM TRADE-UNION SCHEDULE.

Union No.	Trades represented.	Number of workers.			
		Total.	Skilled.	Semiskilled.	Unskilled.
1	Glassworkers	1,250	1,100	100	50
2	Quarrymen, blacksmiths, derrickmen	7,000	4,500	500	2,000
3	Blacksmiths, grinders, mechanics, etc	318	268		50
4	Able seamen	100,000			
5	Steel plate transferrers	69	69		

6	Print cutters	425	425		
7	Tobacco workers	3,500			3,500
8	Mine workers	(1)			
9	Cotton and woolen spinners	3,000	3,000		
10	Retail salesmen	(1)			
11	Horseshoers	5,400	5,400		
12	Slate workers	13,000	10,000		3,000
13	Granite cutters	16,235	16,235		
14	Switchmen's Union	45,000	45,000		
15	Railway carmen	32,173	9,652	12,869	9,652
16	Harness makers, etc	2,000	2,000		
17	Powder workers	240	215		25
18	Maintenance of way	100	50	25	25
19	Concrete workers	7,500	5,000	2,500	
20	Garment workers	150,000	150,000		
21	Cloth cap and hat makers	5,000	5,000		
22	Tile layers	3,100	2,000	1,100	
23	Electrical workers	36,000	30,000	6,000	
24	Painters, decorators, etc	75,000	75,000		
25	Miners, laborers	60,000	30,000	15,000	15,000
26	Firemen	18,000	16,000	2,000	
27	Lathing	7,000	7,000		
28	Telegraphers and train dispatchers	43,000	43,000		
29	Diamond cutters	400	400		
30	Flint-glass industry	70,000	10,000	20,000	40,000
31	Carpenters and joiners	257,000	252,000	5,000	
32	Glove trade	(1)	(1)	(1)	(1)
33	Musicians	65,000	65,000		
34	Blacksmiths	18,000	10,000	8,000	
35	Molders and casters	100,000	100,000		
36	Metal workers	20,000	15,000	5,000	
37	Pattern makers	10,000	10,000		
38	Fur workers	10,000	7,000	3,000	
39	Signalmen	668	668		
40	Hod carriers	50,000		30,000	20,000
41	Steamfitters, plumbers	40,000	40,000		
42	Tailors	(1)	(1)	500	500
43	Stone cutting and carving	(1)	7,000	(1)	(1)

[1] Not reported.

TABLE 8.—INFORMATION DERIVED FROM TRADE-UNION SCHEDULE—Continued.

Union No.	Does the organization favor industrial education?	Remarks.	Is there a system of apprenticeship in the trades represented?
1	Not reported	This matter has never been considered	Yes.
2	Not reported	do	No.
3	No	Industrial education would supply too many workers who would in time of strikes act as strike breakers	Not reported.
4	No	Requisite amount of training can only be obtained at sea	No.
5	No	The apprentices are taught in the shops whenever the occasion requires	Yes.
6	No	Graduates from schools would overcrowd the industry, thereby lessening the time of the working season	Yes.
7	No	Not being a skilled industry, industrial education is not required	No.
8	Not reported	This matter has never been considered	No.
9	Yes	Not possible to teach trade in schools, but believe such education a benefit to workers	Not reported.
10	Not reported	This matter has never been considered	No.
11	Yes	Before one is employed at horseshoeing he should understand the anatomy of horse's foot	Yes.
12	Yes	No reason given	No.
13	Yes	It tends to greater efficiency of the mechanic	Yes.
14	No	Men can not be taught this occupation in schools, but must acquire it by actual experience	No.
15	Not reported	This matter has never been considered	Yes.
16	Not reported	do	No.
17	Not reported		No.
18	Yes	Education increases efficiency	Yes.
19	Not reported	This matter has never been considered	Yes.
20	Not reported		Yes.
21	Not reported	This matter has never been considered	No.
22	No	A school of tile setting has not proved a success in giving to the industry practical tile layers	Yes.
23	Yes	Education increases efficiency	Yes.
24	Yes	Because specialization prevents apprentices from becoming competent workmen	Yes.
25	No	Practical experience is the best educator	No.
26	Not reported	This matter has never been considered	Yes.
27	Yes	No reason given	Yes.
28	No	Business generally passes from father to son	No.
29	No	Every apprentice should receive individual tuition. No need for large number of persons in business	Yes.
30	Not reported		Yes.
31	Yes	In order to have qualified mechanics, the necessary essentials are practice and theory combined. Therefore we favor the establishment of evening trade schools.	Yes.
32	Not reported	No action has been taken on this matter	Yes.
33	Yes	Favor any legitimate method that will educate the youth in music	No.
34	Not reported	This matter has never been acted upon	Yes.
35	Yes	No reason given	Yes.
36	Not reported	This matter has never been taken up	Yes.
37	Yes	In order to develop a higher degree of skill	Yes.
38	Yes	Because education increases efficiency	Yes.
39	Not reported	This matter has never been considered	No.
40	No	No advantage to this union, but it benefits the individual	No.
41	Yes	Because education increases efficiency	Yes.
42	Not reported	The shop is the only place where trades can be taught successfully and efficiently	No.
43	Not reported		Yes.

Union No.	Is the industry highly specialized?	Is specialization becoming more complete?	Would industrial education lessen the tendency toward specialization.	Would industrial education benefit persons in highly specialized callings?	Does the organization favor agreements between employers and unions for the training of workers?	To what extent do private or correspondence schools meet the need for industrial education?	Does the organization think that correspondence schools or that classroom work would benefit workers most?
1	Yes	Not reported	Yes	Yes	Yes	Not reported	Classroom.
2	No	Not reported	Yes	Yes	Yes	Not valuable	Classroom.
3	Not reported	Not reported	Not reported	Not reported	Not reported	Not reported	Not reported.
4	Yes	No	Yes	No	Yes	Not valuable	Classroom.
5	No	No	Yes	Yes	Yes	Not valuable	Classroom.
6	Yes	No	Not reported	Not reported	Yes	Not reported	Classroom.
7	No	No	No	Yes	No	Valuable	Classroom.
8	No	No	Not reported	Not reported	Not reported	Not reported	Classroom.
9	No	No	Not reported	Not reported	Yes	Valuable	Not reported.
10	No	No	Not reported	Not reported	No	Not reported	Not reported.
11	No	No	No	Yes	Yes	Valuable	Classroom.
12	Yes	Yes	No	Yes	Yes	Not valuable	Classroom.
13	Yes	Yes	No	Yes	Yes	Not valuable	Classroom.
14	Yes	No	No	No	No	Not valuable	Classroom.
15	Yes	No	Yes	Yes	Yes	Not valuable	Classroom.
16	Yes	No	No	Yes	Yes	Not valuable	Classroom.
17	No	No	No	No	No	Valuable	Classroom.
18	Yes	Yes	No	Yes	Yes	Valuable	Correspondence.
19	No	No	No	No	Yes	Not reported	Classroom.
20	Yes	No	No	Yes	Yes	Valuable	Classroom.
21	Not reported	Not reported	Not reported	Not reported	Not reported	Not reported	Not reported.
22	No	No	Yes	Not reported	Yes	Not valuable	Not reported.
23	Yes	No	Yes	No	Yes	Valuable	Classroom.
24	Yes	Yes	Yes	Yes	Yes	Not valuable	Classroom.
25	No	No	Not reported	Not reported	No	Not valuable	Not reported.
26	No	No	No	Not reported	Yes	Not valuable	Classroom.
27	No	No	No	Yes	Yes	Valuable	Classroom.
28	No	No	No	Yes	No	Valuable	Classroom.
29	Not reported	Not reported	Not reported	Not reported	Not reported	Not reported	Not reported.
30	Yes	Yes	No	Yes	Yes	Not reported	Classroom.
31	No	No	Yes	Not reported	Yes	Not valuable	Classroom.
32	Yes	Not reported	Not reported	Not reported	Not reported	Not reported	Classroom.
33	Yes	Not reported	No	No	No	Not valuable	Classroom.
34	Yes	Not reported	Yes	Yes	Yes	Not valuable	Classroom.
35	Yes	No	Yes	Yes	Yes	Not valuable	Classroom.
36	No	No	Yes	Yes	Yes	Not valuable	Classroom.
37	No	No	No	Yes	Yes	Valuable	Classroom.
38	Yes	No	Yes	Yes	Yes	Not reported	Classroom.
39	Not reported	Not reported	Not reported	Yes	Yes	Not valuable	Classroom.
40	Not reported	Not reported	Not reported	Not reported	No	Not reported	Not reported.
41	Yes	No	Yes	Yes	Yes	Not valuable	Classroom.
42	Yes	Yes	No	Yes	Yes	Valuable	Classroom.
43	No	No	No	Not reported	Yes	Not reported	Classroom.

TABLE 8.—INFORMATION DERIVED FROM TRADE-UNION SCHEDULE—Concluded.

Union No.	Does organization train its own members by system other than apprenticeships—			Does your organization favor education to safeguard workers from accidents or disease?	Does the organization favor national grants for vocational education?	Does the organization favor national grants for general education of young workers?	Does the organization consider general education as the more important need?
	In any manner?	By schools operated by it?	By courses of instruction carried on by mail?				
1	No	No	No	Not reported	No	Not reported	Not reported.
2	No	No	No	Yes	Yes	Not reported	Not reported.
3	Not reported	Not reported	Not reported	Not reported	Not reported	Not reported	Not reported.
4	No	No	No	Yes	Not reported	Yes	General.
5	No	No	No	Yes	Yes	Yes	Equal.
6	Not reported	Not reported	Not reported	Not reported	No	Yes	General.
7	No	No	No	Yes	Yes	No	Vocational.
8	Not reported	Not reported	Not reported	Yes	Not reported	Not reported	Not reported.
9	Not reported	Not reported	Not reported	Yes	Yes	Yes	Not reported.
10	No	No	No	Yes	Yes	Yes	General.
11	No	No	No	Yes	Yes	Yes	General.
12	No	No	No	Not reported	Yes	Yes	General.
13	No	No	No	Yes	Yes	Yes	General.
14	No	No	No	Yes	Yes	Yes	General.
15	No	No	No	Yes	Yes	Yes	General.
16	No	No	No	Not reported	Yes	Yes	Not reported.
17	No	No	No	Yes	Yes	Yes	General.
18	No	No	No	Yes	Yes	Yes	General.
19	No	No	No	No	No	No	Not reported.
20	No	No	No	No	Yes	Yes	Equal.
21	Not reported	Not reported	Not reported	Not reported	Not reported	Not reported	Not reported.
22	No	No	No	Not reported	Yes	Not reported	Not reported.
23	Yes	Yes	Not reported	Yes	Yes	Not reported	Not reported.
24	Yes	Yes	Not reported	Yes	Yes	Yes	Equal.
25	No	No	No	No	Not reported	Not reported	Not reported.
26	Yes	Yes	No	Not reported	Not reported	Not reported	Not reported.
27	No	No	No	Not reported	Not reported	Not reported	Not reported.
28	No	No	No	Yes	Yes	No	General.
29	Not reported	Not reported	Not reported	Not reported	Not reported	Not reported	Not reported.
30	No	No	No	Not reported	Not reported	Not reported	Not reported.
31	Yes	Yes	No	Yes	Yes	Yes	Equal.
32	No	No	No	Yes	Yes	Yes	Equal.
33	Yes	Yes	Yes	Yes	Yes	Yes	Not reported.
34	No	No	No	Not reported	No	No	Not reported.
35	No	No	No	Yes	Yes	Yes	Vocational.
36	Yes	Yes	No	Not reported	Yes	Not reported	Not reported.
37	No	No	No	Not reported	Yes	Yes	Not reported.
38	Yes	Yes	Yes	Not reported	Yes	Yes	Not reported.
39	No	No	No	Not reported	Yes	Not reported	Not reported.
40	No	No	No	Yes	Yes	Yes	Not reported.
41	Yes	Yes	No	Yes	Yes	Yes	General.
42	No	No	No	Not reported	Yes	Yes	Equal.
43	No	No	No	Not reported	Yes	Yes	General.

APPENDIX L.

AMOUNTS TO BE DISBURSED FOR SALARIES OF TEACHERS AND FOR TRAINING OF TEACHERS.

The tables below show the amounts to be disbursed under the bill proposed by the commission for the salaries of teachers, supervisors, and directors of agricultural subjects, trade and industrial subjects, and for the training of teachers.

Amounts to be disbursed for salaries of teachers, supervisors, or directors of agriculture during the fiscal years ending June 30, 1916 to 1925, allotted on the basis of rural population.

State.	1916		1917		1918		1919		1920	
	Allotted amount.	Supplemental amount.[1]	Allotted amount.	Supplemental amount.[1]	Allotted amount.	Supplemental amount.[1]	Allotted amount.	Supplemental amount.[1]	Allotted amount.	Supplemental amount.[1]
Alabama	$17,900		$26,850		$35,800		$44,750		$53,700	
Arizona	1,450	$3,550	2,175	$2,825	2,900	$2,100	3,625	$1,375	4,350	$650
Arkansas	13,900		20,850		27,800		34,750		41,700	
California	9,200		13,800		18,400		23,000		27,600	
Colorado	4,000	1,000	6,000		8,000		10,000		12,000	
Connecticut	1,150	3,850	1,725	3,275	2,300	2,700	2,875	2,125	3,450	1,550
Delaware	1,050	3,950	1,575	3,425	2,100	2,900	2,625	2,375	3,150	1,850
Florida	5,400		8,100		10,800		13,500		16,200	
Georgia	21,000		31,500		42,000		52,500		63,000	
Idaho	2,600	2,400	3,900	1,100	5,200		6,500		7,800	
Illinois	21,900		32,850		43,800		54,750		65,700	
Indiana	15,800		23,700		31,600		39,500		47,400	
Iowa	15,650		23,475		31,300		39,125		46,950	
Kansas	12,150		18,225		24,300		30,275		36,450	
Kentucky	17,550		26,325		35,100		43,875		52,650	
Louisiana	11,750		17,625		23,500		29,375		35,250	
Maine	3,650	1,350	5,475		7,300		9,125		10,950	
Maryland	6,450		9,675		12,900		16,125		19,350	
Massachusetts	2,450	2,550	3,675	1,325	4,900	100	6,125		7,350	
Michigan	15,050		22,575		30,100		37,625		45,150	
Minnesota	12,400		18,600		24,800		31,000		37,200	
Mississippi	16,100		24,150		32,200		40,250		48,300	
Missouri	19,200		28,800		38,400		48,000		57,600	
Montana	2,450	2,550	3,675	1,325	4,900	100	6,125		7,350	
Nebraska	8,950		13,425		17,900		22,375		26,850	
Nevada	700	4,300	1,050	3,950	1,400	3,600	1,750	3,250	2,100	2,900
New Hampshire	1,800	3,200	2,700	2,300	3,600	1,400	4,500	500	5,400	
New Jersey	6,400		9,600		12,800		16,000		19,200	
New Mexico	2,800	2,200	4,200	800	5,600		7,000		8,400	
New York	19,550		29,325		39,100		48,875		58,650	
North Carolina	19,150		28,725		38,300		47,875		57,450	
North Dakota	5,200		7,800		10,400		13,000		15,600	
Ohio	21,250		31,875		42,500		53,125		63,750	
Oklahoma	13,550		20,325		27,100		33,875		40,650	
Oregon	3,700	1,300	5,550		7,400		9,250		11,100	
Pennsylvania	30,750		46,125		61,500		76,875		92,250	
Rhode Island	200	4,800	300	4,700	400	4,600	500	4,500	600	4,400
South Carolina	13,100		19,650		26,200		32,750		39,300	
South Dakota	5,150		7,725		10,300		12,87		15,450	

Tennessee	17,650		26,475		35,300		44,125		52,950	
Texas	29,950		44,925		59,900		74,875		89,850	
Utah	2,000	3,000	3,000	2,000	4,000	1,000	5,000		6,000	
Vermont	1,900	3,100	2,850	2,150	3,800	1,200	4,750	250	5,700	
Virginia	16,050		24,075		32,100		40,125		48,150	
Washington	5,450		8,175		10,900		13,625		16,350	
West Virginia	10,050		15,075		20,100		25,125		30,150	
Wisconsin	13,450		20,175		26,900		33,625		40,350	
Wyoming	1,050	3,950	1,575	3,425	2,100	2,900	2,625	2,375	3,150	1,850
Total, United States	500,000	47,050	750,000	32,600	1,000,000	22,600	1,250,000	16,750	1,500,000	13,200

State.	1921		1922		1923		1924 and 1925 each.		Total for 10 years.		
	Allotted amount.	Supplemental amount.[1]	Allotted amount.	Supplemental amount.[1]	Allotted amount.	Supplemental amount.[1]	Allotted amount.	Supplemental amount.[1]	Grand total.	Total under allotment.	Total under guaranty.
Alabama	$62,650		$71,600		$89,500		$107,400		$617,550	$617,550	
Arizona	5,075		5,800		7,250	$3,750	8,700	$1,800	65,875	50,025	$15,850
Arkansas	48,650		55,600		69,500		83,400		479,550	479,550	
California	32,200		36,800		46,000		55,200		317,400	317,400	
Colorado	14,000		16,000		20,000		24,000		139,000	138,000	1,000
Connecticut	4,025	$975	4,600	$400	5,750	4,250	6,900	3,100	65,000	39,675	25,325
Delaware	3,675	1,325	4,200	800	5,250	4,750	6,300	3,700	65,000	36,225	28,775
Florida	18,900		21,600		27,000		32,400		186,300	186,300	
Georgia	73,500		84,000		105,000		126,000		724,500	724,500	
Idaho	9,100		10,400		13,000		15,600		93,200	89,700	3,500
Illinois	76,650		87,600		109,500		131,400		755,550	755,550	
Indiana	55,300		63,200		79,000		94,800		545,100	545,100	
Iowa	54,775		62,600		78,250		93,900		539,925	539,925	
Kansas	42,525		48,600		60,750		72,900		419,175	419,175	
Kentucky	61,425		70,200		87,750		105,300		605,475	605,475	
Louisiana	41,125		47,000		58,750		70,500		405,375	405,375	
Maine	12,775		14,600		18,250		21,900		127,275	125,925	1,350
Maryland	22,575		25,800		32,250		38,700		222,525	222,525	
Massachusetts	8,575		9,800		12,250		14,700		88,500	84,525	3,975
Michigan	52,675		60,200		75,250		90,300		519,225	519,225	
Minnesota	43,400		49,600		62,000		74,400		427,800	427,800	
Mississippi	56,350		64,400		80,500		96,600		555,450	555,450	
Missouri	67,200		76,800		96,000		115,200		662,400	662,400	
Montana	8,575		9,800		12,250		14,700		88,500	84,525	3,975
Nebraska	31,325		35,800		44,750		53,700		308,775	308,775	
Nevada	2,450	2,550	2,800	2,200	3,500	6,500	4,200	5,800	65,000	24,150	40,850
New Hampshire	6,300		7,200		9,000	1,000	10,800		70,500	62,100	8,400
New Jersey	22,400		25,600		32,000		38,400		220,800	220,800	
New Mexico	9,800		11,200		14,000		16,800		99,600	96,600	3,000

[1] Minimum of $5,000 is guaranteed to each State for every year up to 1922, inclusive, and a minimum of $10,000 for every subsequent year.

Amounts to be disbursed for salaries of teachers, supervisors, or directors of agriculture during the fiscal years ending June 30, 1916 to 1925, allotted on the basis of rural population—Concluded.

State.	1921		1922		1923		1924 and 1925 each.		Total for 10 years.		
	Allotted amount.	Supplemental amount.[1]	Allotted amount.	Supplemental amount.[1]	Allotted amount.	Supplemental amount.[1]	Allotted amount.	Supplemental amount.[1]	Grand total.	Total under allotment.	Total under guaranty.
New York	$68,425	.....	$78,200	.....	$97,750	.....	$117,300	.....	$674,475	$674,475	.....
North Carolina	67,025	.....	76,600	.....	95,750	.....	114,900	.....	660,675	660,675	.....
North Dakota	18,200	.....	20,800	.....	26,000	.....	31,200	.....	179,400	179,400	.....
Ohio	74,375	.....	85,000	.....	106,250	.....	127,500	.....	733,125	733,125	.....
Oklahoma	47,425	.....	54,200	.....	67,750	.....	81,300	.....	467,475	467,475	.....
Oregon	12,950	.....	14,800	.....	18,500	.....	22,200	.....	128,950	127,650	$1,300
Pennsylvania	107,625	.....	123,000	.....	153,750	.....	184,500	.....	1,060,875	1,060,875	.....
Rhode Island	700	$4,300	800	$4,200	1,000	$9,000	1,200	$8,800	65,000	6,900	58,100
South Carolina	45,850	.....	52,400	.....	65,500	.....	78,600	.....	451,950	451,950	.....
South Dakota	18,025	.....	20,600	.....	25,750	.....	30,900	.....	177,675	177,675	.....
Tennessee	61,775	.....	70,600	.....	88,250	.....	105,900	.....	608,925	608,925	.....
Texas	104,825	.....	119,800	.....	149,750	.....	179,700	.....	1,033,275	1,033,275	.....
Utah	7,000	.....	8,000	.....	10,000	.....	12,000	.....	75,000	69,000	6,000
Vermont	6,650	.....	7,600	.....	9,500	500	11,400	.....	72,750	65,550	7,200
Virginia	56,175	.....	64,200	.....	80,250	.....	96,300	.....	553,725	553,725	.....
Washington	19,075	.....	21,800	.....	27,250	.....	32,700	.....	188,025	188,025	.....
West Virginia	35,175	.....	40,200	.....	50,250	.....	60,300	.....	346,725	346,725	.....
Wisconsin	47,075	.....	53,800	.....	67,250	.....	80,700	.....	464,025	464,025	.....
Wyoming	3,675	1,325	4,200	800	5,250	4,750	6,300	3,700	65,000	36,225	28,775
Total, United States	1,750,000	10,475	2,000,000	8,400	2,500,000	33,500	3,000,000	26,400	17,487,375	17,250,000	237,375

Amounts to be disbursed for salaries of teachers of trades and industries during the fiscal years ending June 30, 1916 to 1925, allotted on the basis of urban population.

State.	1916		1917		1918		1919		1920	
	Allotted amount.	Supplemental amount.[1]	Allotted amount.	Supplemental amount.[1]	Allotted amount.	Supplemental amount.[1]	Allotted amount.	Supplemental amount.[1]	Allotted amount.	Supplemental amount.[1]
Alabama	$4,350	$650	$6,525	.....	$8,700	.....	$10,875	.....	$13,050	.....
Arizona	750	4,250	1,125	$3,875	1,500	$3,500	1,875	$3,125	2,250	$2,750

Arkansas	2,400	2,600	3,600	1,400	4,800	200	6,000		7,200	
California	17,250		25,875		34,500		43,125		51,750	
Colorado	4,750	250	7,125		9,500		11,875		14,250	
Connecticut	11,750		17,625		23,500		29,375		35,250	
Delaware	1,150	3,850	1,725	3,275	2,300	2,700	2,875	2,125	3,450	1,550
Florida	2,550	2,450	3,825	1,175	5,100		6,375		7,650	
Georgia	6,300		9,450		12,600		15,750		18,900	
Idaho	800	4,200	1,200	3,800	1,600	3,400	2,000	3,000	2,400	2,600
Illinois	40,800		61,200		81,600		102,000		122,400	
Indiana	13,400		20,100		26,800		33,500		40,200	
Iowa	8,000		12,000		16,000		20,000		24,000	
Kansas	5,800		8,700		11,600		14,500		17,400	
Kentucky	6,500		9,750		13,000		16,250		19,500	
Louisiana	5,800		8,700		11,600		14,500		17,400	
Maine	4,500	500	6,750		9,000		11,250		13,500	
Maryland	7,700		11,550		15,400		19,250		23,100	
Massachusetts	36,650		54,975		73,300		91,625		109,950	
Michigan	15,550		23,325		31,100		38,875		46,650	
Minnesota	9,950		14,925		19,900		24,875		29,850	
Mississippi	2,450	2,550	3,675	1,325	4,900	100	6,125		7,350	
Missouri	16,400		24,600		32,800		41,000		49,200	
Montana	1,550	3,450	2,325	2,675	3,100	1,900	3,875	1,125	4,650	350
Nebraska	3,650	1,350	5,475		7,300		9,125		10,950	
Nevada	150	4,850	225	4,775	300	4,700	375	4,625	450	4,550
New Hampshire	3,000	2,000	4,500	500	6,000		7,500		9,000	
New Jersey	23,350		33,525		44,700		55,875		67,050	
New Mexico	550	4,450	825	4,175	1,100	3,900	1,375	3,625	1,650	3,350
New York	84,300		126,450		168,600		210,750		252,900	
North Carolina	3,750	1,250	5,625		7,500		9,375		11,250	
North Dakota	750	4,250	1,125	3,875	1,500	3,500	1,875	3,125	2,250	2,750
Ohio	31,250		46,875		62,500		78,125		93,750	
Oklahoma	3,750	1,250	5,625		7,500		9,375		11,250	
Oregon	3,600	1,400	5,400		7,200		9,000		10,800	
Pennsylvania	54,300		81,450		108,600		135,750		162,900	
Rhode Island	6,150		9,225		12,300		15,375		18,450	
South Carolina	2,650	2,350	3,975	1,025	5,300		6,625		7,950	
South Dakota	900	4,100	1,350	3,650	1,800	3,200	2,250	2,750	2,700	2,300
Tennessee	5,150		7,725		10,300		12,875		15,450	
Texas	11,000		16,500		22,000		27,500		33,000	
Utah	2,050	2,950	3,075	1,925	4,100	900	5,125		6,150	
Vermont	2,000	3,000	3,000	2,000	4,000	1,000	5,000		6,000	
Virginia	5,600		8,400		11,200		14,000		16,800	
Washington	7,100		10,650		14,200		17,750		21,300	
West Virginia	2,700	2,300	4,050	950	5,400		6,750		8,100	
Wisconsin	11,800		17,700		23,600		29,500		35,400	
Wyoming	500	4,500	750	4,250	1,000	4,000	1,250	3,750	1,500	3,500
Total, United States[2]	500,000	64,750	750,000	44,650	1,000,000	33,000	1,250,000	27,250	1,500,000	23,700

[1] A minimum of $5,000 is guaranteed to each State for every year up to 1922, inclusive, and a minimum of $10,000 for every subsequent year.

[2] The totals for the United States are somewhat in excess of the sums for the 48 States because while the allotment is based on the total urban population of the United States no appropriation is provided for the District of Columbia.

Amounts to be disbursed for salaries of teachers of trades and industries during the fiscal years ending June 30, 1916 to 1925, allotted on the basis of urban population—Concluded.

State.	1921		1922		1923		1924 and 1925 each.		Total for 10 years.		
	Allotted amount.	Supplemental amount.[1]	Allotted amount.	Supplemental amount.[1]	Allotted amount.	Supplemental amount.[1]	Allotted amount.	Supplemental amount.[1]	Grand total.	Total under allotment.	Total under guaranty.
Alabama	$15,225		$17,400		$21,750		$26,100		$150,725	$150,075	$650
Arizona	2,625	$2,375	3,000	$2,000	3,750	$6,250	4,500	$5,500	65,000	25,875	39,125
Arkansas	8,400		9,600		12,000		14,400		87,000	82,800	4,200
California	60,375		69,000		86,250		103,500		595,125	595,125	
Colorado	16,625		19,000		23,750		28,500		164,125	163,875	250
Connecticut	41,125		47,000		58,750		70,500		405,375	405,375	
Delaware	4,025	975	4,600	400	5,750	4,250	6,900	3,100	65,000	39,675	25,325
Florida	8,925		10,200		12,750		15,300		91,600	87,975	3,625
Georgia	22,050		25,200		31,500		37,800		217,350	217,350	
Idaho	2,800	2,200	3,200	1,800	4,000	6,000	4,800	5,200	65,000	27,600	37,400
Illinois	142,800		163,200		204,000		244,800		1,407,600	1,407,600	
Indiana	46,900		53,600		67,000		80,400		462,300	462,300	
Iowa	28,000		32,000		40,000		48,000		276,000	276,000	
Kansas	20,300		23,200		29,000		34,800		200,100	200,100	
Kentucky	22,750		26,000		32,500		39,000		224,250	224,250	
Louisiana	20,300		23,200		29,000		34,800		200,100	200,100	
Maine	15,750		18,000		22,500		27,000		155,750	155,250	500
Maryland	26,950		30,800		38,500		46,200		265,650	265,650	
Massachusetts	128,275		146,600		183,250		219,900		1,264,425	1,264,425	
Michigan	54,425		62,200		77,750		93,300		536,475	536,475	
Minnesota	24,825		39,800		49,750		59,700		333,275	333,275	
Mississippi	8,575		9,800		12,250		14,700		88,500	84,525	3,975
Missouri	57,400		65,600		82,000		98,400		565,800	565,800	
Montana	5,425		6,200		7,750	2,250	9,300	700	66,625	53,475	13,150
Nebraska	12,775		14,600		18,250		21,900		127,275	125,925	1,350
Nevada	525	4,475	600	4,400	750	9,250	900	9,100	65,000	5,175	59,825
New Hampshire	10,500		12,000		15,000		18,000		106,000	103,500	2,500
New Jersey	78,225		89,400		111,750		134,100		772,075	772,075	
New Mexico	1,925	3,075	2,200	2,800	2,750	7,250	3,300	6,700	65,000	18,975	46,025
New York	295,050		337,200		421,500		505,800		2,908,350	2,908,350	
North Carolina	13,125		15,000		18,750		22,500		130,625	129,375	1,250
North Dakota	2,625	2,375	3,000	2,000	3,750	6,250	4,500	5,500	65,000	25,875	39,125
Ohio	109,375		125,000		156,250		187,500		1,078,125	1,078,125	
Oklahoma	13,125		15,000		18,750		22,500		130,625	129,375	1,250
Oregon	12,600		14,400		18,000		21,600		125,600	124,200	1,400
Pennsylvania	190,050		217,200		271,500		325,800		1,873,350	1,873,350	
Rhode Island	21,525		24,600		30,750		36,900		212,175	212,175	
South Carolina	9,275		10,600		13,250		15,900		94,800	91,425	3,375
South Dakota	3,150	1,850	3,600	1,400	4,500	5,500	5,400	4,600	65,000	31,050	33,950

Tennessee	18,025		20,600		25,750		30,900		177,675	177,675	
Texas	38,500		44,000		55,000		66,000		379,500	379,500	
Utah	7,175		8,200		10,250		12,300		76,500	70,725	5,775
Vermont	7,000		8,000		10,000		12,000		75,000	69,000	6,000
Virginia	19,600		22,400		28,000		33,600		193,200	193,200	
Washington	24,850		28,400		35,500		42,600		244,950	244,950	
West Virginia	9,450		10,800		13,500		16,200		96,400	93,150	3,250
Wisconsin	41,300		47,200		59,000		70,800		407,100	407,100	
Wyoming	1,750	3,250	2,000	3,000	2,500	7,500	3,000	7,000	65,000	17,250	47,750
Total, United States[2]	1,750,000	20,575	2,000,000	17,800	2,500,000	54,500	3,000,000	47,400	17,631,025	17,250,000	381,025

Amounts to be disbursed for training teachers of vocational subjects allotted on the basis of total population.

State.	1916		1917		1918		1919–1925		Totals for 10 years.		
	Allotted amount.	Supplemental amount.[1]	Allotted amount.	Supplemental amount.[1]	Allotted amount.	Supplemental amount.[1]	Allotted amount.	Supplemental amount.[1]	Grand total.	Total under allotment.	Total under guarantee.
Alabama	$11,600		$16,240		$20,880		$28,200		$211,120	$211,120	
Arizona	1,100	$3,900	1,540	$3,460	1,980	$3,020	2,200	$7,800	85,000	20,020	$64,980
Arkansas	8,550		11,970		15,390		17,100		155,610	155,610	
California	12,900		18,060		23,220		25,800		234,780	234,780	
Colorado	4,300	650	6,090		7,830		8,700	1,300	88,920	79,170	9,750
Connecticut	6,050		8,470		10,890		12,100		110,110	110,110	
Delaware	1,100	3,900	1,540	3,460	1,980	3,020	2,200	7,800	85,000	20,020	64,980
Florida	4,100	900	5,740		7,380		8,200	1,800	88,120	74,620	13,500
Georgia	14,200		19,880		25,560		28,400		258,440	258,440	
Idaho	1,750	3,250	2,450	2,550	3,150	1,850	3,500	6,500	85,000	31,850	53,150
Illinois	30,650		42,910		55,170		61,300		557,830	557,830	
Indiana	14,700		20,580		26,460		29,400		267,540	267,540	
Iowa	12,100		16,940		21,780		24,200		220,220	220,220	
Kansas	9,200		12,880		16,560		18,400		167,440	167,440	
Kentucky	12,450		17,430		22,410		24,900		226,590	226,590	
Louisiana	9,000		12,600		16,200		18,000		163,800	163,800	
Maine	4,050	950	5,670		7,290		8,100	1,900	87,960	73,710	14,250
Maryland	7,050		9,870		12,690		14,100		128,310	128,310	
Massachusetts	18,300		25,620		32,940		36,600		333,060	333,060	
Michigan	15,250		21,350		27,450		30,500		277,550	277,550	
Minnesota	11,300		15,820		20,340		22,600		205,660	205,660	
Mississippi	9,750		13,650		17,550		19,500		177,450	177,450	
Missouri	17,900		25,060		32,220		35,800		325,780	325,780	

[1] A minimum of $5,000 is guaranteed each State for every year up to 1922, inclusive, and a minimum of $10,000 for every subsequent year.

[2] The totals for the United States are somewhat in excess of the sums for the 48 States because while the allotment is based on the total urban population of the United States no appropriation is provided for the District of Columbia.

State.	1916		1917		1918		1919–1925		Totals for 10 years.		
	Allotted amount.	Supplemental amount.[1]	Allotted amount.	Supplemental amount.[1]	Allotted amount.	Supplemental amount.[1]	Allotted amount.	Supplemental amount.[1]	Grand total.	Total under allotment.	Total under guarantee.
Montana	$2,050	$2,950	$2,870	$2,130	$3,690	$1,310	$4,100	$5,900	$85,000	$37,310	$47,690
Nebraska	6,500	.....	9,100	.....	11,700	.....	13,000	.....	118,300	118,300	.....
Nevada	450	4,550	630	4,370	810	4,190	900	9,100	85,000	8,190	76,810
New Hampshire	2,350	2,650	3,290	1,710	4,230	770	4,700	5,300	85,000	42,770	42,230
New Jersey	13,800	.....	19,320	.....	24,840	.....	27,600	.....	251,160	251,160	.....
New Mexico	1,800	3,200	2,520	2,480	3,240	1,760	3,600	6,400	85,000	32,760	52,240
New York	49,550	.....	69,370	.....	89,190	.....	99,100	.....	901,810	901,810	.....
North Carolina	12,000	.....	16,800	.....	21,600	.....	24,000	.....	218,400	218,400	.....
North Dakota	3,150	1,850	4,410	5,090	5,670	.....	6,300	3,700	85,670	57,330	28,340
Ohio	25,900	.....	36,260	.....	46,620	.....	51,800	.....	471,380	471,380	.....
Oklahoma	9,000	.....	12,600	.....	16,020	.....	18,000	.....	163,800	163,800	.....
Oregon	3,650	1,350	5,110	.....	6,570	.....	7,300	2,700	86,680	66,430	20,250
Pennsylvania	41,650	.....	58,310	.....	74,970	.....	83,300	.....	758,030	758,030	.....
Rhode Island	2,950	2,050	4,130	870	5,310	.....	5,900	4,100	85,310	53,690	31,620
South Carolina	8,250	.....	11,550	.....	14,850	.....	16,500	.....	150,150	150,150	.....
South Dakota	3,150	1,850	4,410	590	5,670	.....	6,300	3,700	85,670	57,330	28,340
Tennessee	11,850	.....	16,590	.....	21,330	.....	23,700	.....	215,670	215,670	.....
Texas	21,200	.....	29,680	.....	38,160	.....	42,400	.....	385,840	385,840	.....
Utah	2,050	2,950	2,870	2,130	3,690	1,310	4,100	5,900	85,000	37,310	47,690
Vermont	1,950	3,050	2,730	2,270	3,510	1,490	3,900	6,100	85,000	35,490	49,510
Virginia	11,200	.....	15,680	.....	20,160	.....	22,400	.....	203,840	203,840	.....
Washington	6,200	.....	8,680	.....	11,160	.....	12,400	.....	112,840	112,840	.....
West Virginia	6,650	.....	9,310	.....	11,970	.....	13,300	.....	121,030	121,030	.....
Wisconsin	12,700	.....	17,780	.....	22,860	.....	25,400	.....	231,140	231,140	.....
Wyoming	800	4,200	1,120	3,880	1,440	3,560	3,560	8,400	85,000	14,560	70,440
Total, United States[2]	500,000	44,200	700,000	30,490	900,000	22,280	1,000,000	88,400	9,815,770	9,100,000	715,770

[1] A minimum of $5,000 is guaranteed each State for every year up to 1918, inclusive, and a minimum of $10,000 for every subsequent year.

[2] The totals for United States are somewhat in excess of the sums for the 48 States because, while the allotment is based on the total population of the United States, no appropriation is provided for the District of Columbia.

APPENDIX M.

WORK DONE BY FEDERAL DEPARTMENTS FOR VOCATIONAL EDUCATION.

In considering the question of appropriations to be expended through Federal agencies in making studies, investigations, and reports to help the States to deal with vocational education, the commission submitted to six of the Federal departments, in advance of the hearings at which representatives of each appeared,[1] a list of questions inquiring as to the work of these departments for vocational education.

While these questions necessarily differed in detail for each of the departments, in general they covered four broad points:

I. The service for vocational education already rendered by each department.

II. The possibility of additional service in each department.

III. The funds needed to prepare each department to render larger service for vocational education.

IV. The relationship of the different departments to each other in the work already accomplished and the opinion of each as to what that relationship should be.

The replies of the departments to the questions submitted are presented in sections I, II, III, and IV of this appendix, classified under the headings indicated above. The language is in each case very largely that used by the representatives at the hearings.

SECTION I.—THE SERVICE FOR VOCATIONAL EDUCATION ALREADY RENDERED BY EACH DEPARTMENT.

A description is here given of the work done by each of the Federal departments in promoting vocational training in the various States. The descriptions are taken from the reports by the representatives of the departments at the hearings before the commission.

THE SERVICE RENDERED BY THE BUREAU OF EDUCATION.

In Agricultural Education 25 bulletins have been issued, or are being prepared, by the Bureau of Education on such subjects as teaching material in Government publications; training of teachers of agriculture, methods of teaching agriculture, graduate study in agriculture; agricultural education in rural, elementary, and secondary schools; school gardens in rural communities, cities, towns, and manufacturing villages; rural education in the United States; educational surveys of rural counties; State systems of agricultural education and methods used in particular schools; agricultural education in Denmark; bibliography of agricultural education.

A member of the bureau is now studying rural and village schools of the British Isles, with special reference to the work in agricultural schools and agricultural education. Another member is studying school gardening, and home gardening directed by the school in central European countries. Three additional specialists will soon be employed—one in trade and industrial schools; one in agricultural education distinctively; one in home economics and home arts.

One of the most fundamental things the bureau has done is a careful study, recently begun, of what the farmer and the farmer's wife need to know, because they live in a rural home under country conditions and make their living by farming. This will be used as an element in the fundamental study for a reconstruction of the courses of study in rural schools. The information is being obtained from two sets of questions sent to farmers and to farmers' wives.

The bureau's specialists in land grant college statistics and in rural school education have visited agricultural colleges and high schools in which agriculture is taught for the purpose of collecting information and giving advice regarding agriculture and education.

[1] For the full report of the departments at the hearings, see Hearings before Commission on National Aid to Vocational Education, Vol. 2 of this report, pp. 7-122.

The bureau is now directing some experiments in home gardening supervised by the school. These are designed primarily for children under 14 years of age, and are conducted mainly in the suburban districts of towns and manufacturing mill districts, like cotton mills of the South. Each of these schools has a teacher all the year round who teaches nature study and elementary sciences in the schools and who supervises the work of the children in the gardens at home in the afternoons of the late winter and early spring, and through all the day in vacation time.

In Household Arts Education the bureau has issued or has in preparation eight bulletins on such subjects as bibliography of household arts education; methods of household arts education in particular schools of this country and in the schools of rural Denmark; methods of teaching domestic science; daily meals of school children; specific subjects of home improvement.

In Commercial Education the annual reports of the Commissioner of Education have for many years contained information in regard to commercial schools and commercial courses of study not only in this country but also in Europe. No special study has been made of this subject, but the bureau has arranged for a study of the status of commercial education in the Southern States.

In Industrial and Trade Education the bureau has issued, or has in preparation, 20 bulletins on such subjects as descriptions of continuation schools, apprenticeship systems, cooperative and corporation schools in the United States; description of various phases of industrial education in Germany, Switzerland, England, and Scotland; trade schools in 25 or 30 industrial cities of Europe; types of industrial education in various cities of the United States; the vocational education of immigrants.

Regarding the Training of Teachers the bureau has published a few bulletins shewing what changes have recently been made in the work of the normal schools in the direction of providing increased facilities to prepare teachers for secondary schools in the subjects of agriculture and household arts, and the trades and industries. In Porto Rico a plan is in operation, suggested by the Commissioner of Education, for the training of teachers of vocational subjects for the public schools of the islands. Under this plan practically all of the teachers in the public schools of the island have had some systematic and effective instruction and training. Recently the bureau has arranged for a group of 25 to 30 teachers of the manual training and industrial arts in different parts of the country to study for three months in the vocational and continuation schools of Munich, Germany.

THE SERVICE RENDERED BY THE BUREAU OF LABOR STATISTICS.

The Bureau of Labor Statistics Does Not Attempt to Promote Particular Movements or Measures, but rather to collect information, to study existing conditions, and to publish as widely as possible the results.

The Publications issued by the Bureau of Labor Statistics in the field of industrial education are as follows:

Eighth Annual Report, Industrial Education, 1892; Seventeenth Annual Report, Trade and Technical Education, 1902; Bulletin 54, Trade and Technical Education in the United States; Twenty-fifth Annual Report, Industrial Education in the United States, 1911.

Also reports containing information of special value in regard to the character of the work and the requirements of occupations, as follows:

Report on Condition of Women and Child Wage Earners in the United States: Volume I, Cotton textiles; Volume II, Men's ready-made clothing; Volume III, Glass industry; Volume IV, Silk industry; Volume VII, Conditions under which children leave school to go to work; Volume XVIII, Employment of women and children in 23 selected industries.

Conditions of Employment in the Iron and Steel Industry: Volume I, Wages and hours of labor.

Investigations of telephone companies under Senate Document No. 380, Sixty-first Congress.

Also in bulletins relating to hours of labor: Bulletin 128, Cotton, woolen, and silk industries; Bulletin 129, Lumber, millwork, and furniture industries; Bulletin 134, Boot and shoe, hosiery, and knit goods industries; Bulletin 135, Cigar and clothing industries; Bulletin 137, Building and repairing of steam railroad cars.

Much Information of Special Value for Industrial Education if studied and properly interpreted with reference to such use is also gathered by the bureau as a by-product in its investigations of wages and hours of labor and conditions of work, which attempt to describe somewhat in detail the actual processes in the occupations investigated. The bureau makes such studies of industries regularly and publishes results annually. Some outlines of courses of study have already been worked out in New York City, for example, that are the direct outcome of the bureau's investiga-

tions into the industries of that city. The industries recently studied in New York City are the dress and waist industry, and the cloak, suit, and skirt industry. This was a first-hand study, in cooperation with employers and employees, of actual conditions in the shops, a detailed analysis of the exact processes in the occupations carried on, in an attempt to discover what kind of intelligence, what kinds and degrees of skill are required to perform those processes, and with that analysis attempting to develop a course of training that will give to the beginners the elements of that intelligence and skill. As a result of this investigation and analysis, an apprenticeship system for the industries covered has been outlined in detail by the bureau's representative at the request of the employers and employees and has been accepted by the latter. These studies of the requirements of the occupations and industries and of how far those requirements may be better met in proper instruction in industrial and trade subjects should be especially useful for those who are to teach industrial and trade subjects. The studies are to be printed soon in bulletin form.

In addition to the information contained in the publications already referred to, the bureau has also a large body of information and experience which may be drawn upon to answer specific or general inquiries which come to the bureau in the course of a large correspondence. In connection with its library, the bureau aims to collect all the publications in this country and abroad which have a direct bearing upon strictly industrial education.

The bureau secures its material in regard to industrial and trade education directly from school officials, employers and employees, and through personal visits of its agents. Practically none of this information is secured by correspondence, as such a method has usually been found wholly unsatisfactory.

THE SERVICE RENDERED BY THE DEPARTMENT OF AGRICULTURE.

Promotion of Agricultural Education.—The Department of Agriculture has in its Office of Experiment Stations a small division which promotes the establishment of courses in agriculture in secondary schools and gives information to such schools through personal conferences, correspondence, and publications. This advice relates to the subject matter of instruction in agriculture, courses of study, textbooks and other literature, equipment, and other matters relating to the teaching of agriculture.

This office, being in close touch with agricultural colleges and schools throughout the country, is often able to give information regarding teachers of agriculture available for secondary schools. It has also collected a large amount of information regarding the progress of agricultural education in the United States and foreign countries. By an arrangement recently made with the Bureau of Education this information will be made available in an annual report prepared jointly by the Office of Experiment Stations and the Bureau of Education, and published by the latter. The members of its staff frequently attend conferences of school and college faculties, boards of control of such institutions, agricultural and educational associations, and other bodies to advise with them on a wide variety of matters relating to the teaching of agriculture.

Promotion of Household Education.—The Office of Experiment Stations, through its nutrition investigations, has been furnishing secondary schools throughout the country with much fundamental material which is used in giving instruction in household arts. This has been obtained through experimental research, and the collection and classification of general information.

The department is furnishing a large amount of information to schools on the composition, nutritive values, methods of preparation, and the adulteration of foods, through its Office of Experiment Stations and the Bureau of Chemistry, and on the construction, equipment, and sanitation of the farm home, through its various branches.

As an incident of its relations with the agricultural colleges and schools, this office has been brought into relatively close touch with the institutions in which household arts are taught, and thus has been able to bring the work of the department relative to household arts to the attention of a large number of teachers and students of this subject. Technical bulletins on these subjects are now commonly used by teachers as sources of information. The popular bulletins (Farmers' Bulletins) on these subjects are very generally used in the schools.

Agricultural and Household Arts Education in Elementary Schools.—The efforts of the Department of Agriculture to encourage instruction in agriculture and household arts in elementary schools are similar to the efforts employed for similar instruction in secondary schools but to much more limited extent, since systematic instruction in agriculture and household arts in elementary schools has received comparatively little attention.

PUBLICATIONS.—Special bulletins and circulars dealing with the subject matter and facilities for secondary and elementary agricultural education, boys' and girls' clubs, etc., are issued by the Office of Experiment Stations in cooperation with the other bureaus of the department. Illustrative material for use in agricultural schools, including charts, photographs, lantern slides, moving-picture films, etc., is being prepared in a similar way to a limited extent, and arrangements are being made for extending the service.

The Office of Experiment Stations maintains a department of agricultural education in the periodical entitled "Experiment Station Record," which involves the reviewing of the world's literature on the subject. A card index of American and foreign institutions for agricultural education, and a card index to the literature of agricultural education are also maintained.

The department has recently prepared, in cooperation with the American Home Economics Association, an extensive syllabus which classifies the whole content of the general subject of agriculture. This syllabus will be of great assistance in formulating courses of instruction. The publications of the department on food and nutrition and other household subjects are used very widely to supplement the textbooks.

FARM EXTENSION WORK.—The department is directly carrying on, in cooperation with State agricultural colleges, State departments of agriculture, counties, and other agencies within the States, farm extension work through two branches of its Bureau of Plant Industry.

1. Farmers' cooperative demonstration work in 15 Southern States, involving the employment of 1,075 county and other agents and the expenditure of $375,000 of department funds, $250,000 of General Education Board funds, and $490,000 derived from State sources.

2. Farm extension work in connection with studies of farm management in 25 Northern and Western States, involving the employment of 212 county agents and the expenditure of $138,000 of department funds and $390,000 from State sources.

The Office of Experiment Stations has a small division which collects information regarding the progress of farmers' institutes and other forms of extension work in this country and abroad and aids in the promotion of such enterprises through cooperation with State departments and agricultural colleges. For this purpose about $11,000 is available.

In 1913 about 25,000 sessions of farmers' institutes were held in the United States, the total attendance of which was about 3,900,000. In addition to this, movable classes, correspondence courses, rural study clubs, agricultural trains, demonstrations, and other forms of extension work were carried on by State agricultural colleges, in which more than a million additional people were reached.

EXTENSION WORK RELATING TO HOUSEHOLD ARTS is done by the department through the same agencies as is the farm extension work, but it is very much more limited in extent. A special feature in extension work relating to household arts is the employment of women as special agents to form girls' canning clubs and give farm girls instruction in canning farm products for use in the home or for sale.

The Office of Experiment Stations has encouraged the organization of special institutes for women and girls and the organization of movable schools and correspondence courses of instruction on subjects relating to household arts.

The nutrition investigations of the Office of Experiment Stations maintain close relations by correspondence and conference with teachers engaged in women's institutes and other forms of extension work, with the home economics section of the general Federation of Women's Clubs, with a similar section of the National Grange, with the American Home Economics Association, and with other similar agencies.

FOR EXTENSION WORK IN AGRICULTURE AND HOUSEHOLD ARTS, county agents are located permanently in counties for the purpose of bringing to the farmers, through demonstrations on their farms and through personal conferences, the practical results of the investigations of the department and State agricultural experiment stations and other similar institutions, and the best practice of farmers in helping to put them into effect on their farms.

Farm boys are organized in clubs for the raising of corn, pigs, etc., on competitive conditions, for the purpose of stimulating their interest in improving farm practice and in country life. Clubs of farm girls have been formed in a similar way. Such clubs for boys and girls exist in more than half the States.

THE SERVICE RENDERED BY THE DEPARTMENT OF COMMERCE.

INFORMATION ON COMMERCIAL EDUCATION.—The Department of Commerce is now assisting the States and local communities by furnishing information in regard to commercial education only when requested to furnish specific facts. The department has officially taken no definite steps to promote commercial education further than

to occasionally invite attention to the subject in speeches before commercial organizations. It probably does not have in its files any direct evidence that there is an urgent need for commercial education in this country of a type not now being given extensively.

By the word "officially" is meant that the law does not charge the department with the duty of promoting education. Its function is to promote commerce and commercial welfare rather than educational progress, and it deals almost exclusively with the development of foreign commerce. It is impossible to prevent the work being educational in effect, but speaking in legal terms, the department has no function of promoting education. It could not handle the subject in an official way without special authorization for that purpose by Congress. Without such authorization it could not even issue official bulletins concerning commercial education.

COMMERCIAL EDUCATION IN FOREIGN COUNTRIES.—The department has gathered, as a by-product, a very considerable amount of information showing the efforts being made in commercial education in foreign countries, but at the present time, both because the department is not suitably equipped and because it does not think that this matter lies within the scope of its duties, such material is not being worked up for use in commercial education in this country.

THE DAILY CONSULAR REPORTS of the department occasionally and incidentally have some discussion of commercial education in foreign countries, since it is practically impossible to keep such incidental material out of the Daily Consular Reports; it is there purely as a by-product. A few of such consular reports on commercial education have been published separately.

ANALYSIS OF COMMERCIAL OCCUPATIONS.—The Department of Commerce has to some extent gathered information bearing on a descriptive analysis of commercial occupations. Such information has been issued in the form of bulletins on occupations. To make this information useful for purposes of commercial education, however, cooperation with the Bureau of Education would be necessary, especially to enable the Department of Commerce to know just what the Bureau of Education wanted for the purpose of commercial education.

THE SERVICE RENDERED BY THE DEPARTMENT OF WAR.

GENERAL EDUCATION OF ENLISTED MEN.—The War Department now provides facilities for the general education of all enlisted men, who so desire, through the medium of what is known as the post school. Such a school is established at every Army post to instruct in the common branches of education, such as reading, writing, spelling, history, geography, grammar, and arithmetic. Instruction is given, under the supervision of officers, by teachers detailed from the enlisted men. Attendance is not compulsory. The school term comprises the period from November 1 to March 31. Recitations of an hour's duration are ordinarily held five times a week, generally in the forenoon or early afternoon. The general conduct of each school is under the control of the commanding officer of the post. As a rule only a small percentage of the enlisted men avail themselves of the advantages offered.

INDUSTRIAL AND TRADE EDUCATION.—The opportunities for industrial and trade education for enlisted men are very general, and are briefly outlined as follows:

1. *Schools for bakers and cooks.*—There are three of these schools—one at Washington Barracks, D. C., one at the presidio of San Francisco, Cal., and one at Fort Riley, Kans. Their object is to give practical instruction in the arts of cooking and baking to classes composed of selected enlisted men. The school term is of four months' duration, during which period the students are excused from all other duties. Upon completion of the school course certificates of proficiency are awarded to those who pass a satisfactory examination. The following degrees of proficiency are recognized: Assistant baker, baker, second cook, first cook, mess sergeant.

The respective post commanders act as commandants of the schools, the instructors consisting of selected officers and men. About 750 men take this course annually.

2. *School for saddlers and battery mechanics, Rock Island Arsenal, Ill.*—The purpose of the school is to train practical saddlers and battery mechanics. The school is under the direction of the Chief of Ordnance and the instruction is in the hands of the commanding officer of the Rock Island Arsenal. Instructors are officers and specialists in the employ of the Ordnance Department. The school term is of 11 months' duration, during which the students are excused from all other duties. The classes under instruction are composed of specially recommended enlisted men from the various organizations of the Army. The saddlers' course comprises practical work in all the important branches of the manufacture and repair of harnesses, bridles, saddles, and other leather equipment pertaining to the mounted service. The mechanics' course includes instruction in riveting, in the use of a file, chisel, reamer, lathe, and machine tools. About 45 men take this course annually.

3. *School for farriers and horseshoers, Fort Riley, Kans.*—This school is a branch of the Mounted Service School and is administered by the commandant of the latter, who is a field officer selected from the mounted service. The instructors are selected officers and enlisted men. The students are detailed from the mounted branches. There are annually two courses of four months each, viz, February 15 to June 15, and July 15 to November 15. During the school terms students are excused from all other duties. The course comprises the treatment and care of sick horses and practical horseshoeing. About 200 men take this course annually.

4. *Enlisted men's division of the Coast Artillery School, Fort Monroe, Va.*—This school is under the supervision and control of the Chief of Coast Artillery as administered by the commandant, who is a field officer of the Coast Artillery. Instructors are selected officers and enlisted men. This division has for its object the theoretical and practical instruction of the enlisted personnel who actually run the power plants, boilers, and engines, install and maintain electrical machines, instruments, and searchlights, and prepare the drawings and charts for coast artillery work at the various posts.

To be eligible for a course of instruction an enlisted candidate for master gunner, electrician sergeant, or fireman must have at least one and one-half years of continuous service in the Coast Artillery Corps immediately prior to the beginning of the school term and must be familiar with one or more classes of machinery, apparatus, or equipment pertaining to the course selected.

The school work of this division comprises three distinct regular courses, each course being completed in one year. The total number of enlisted students is about 50 or 60. The three regular courses pursued are the electrical, the mechanical, and the artillery. In addition to these a special course in radiotelegraphy was established in 1912.

The electrical course is designed to prepare men for appointment as electrician sergeants. This course covers the ordinary technical application of electricity in the Coast Artillery Service and includes, in addition, elementary electrical engineering.

The mechanical course is designed to prepare men for appointments as firemen. It includes thorough practical instruction in all routine duties of the boiler room, the engine room, and the machine shop, and, in addition, gives a practical knowledge of fuel and fuel burning, and steam and steam production, boiler and engine tests, and general power plant operation such as will best prepare the students for the responsible position of engineer.

The artillery course, while intended primarily to fit men for the proper performance of the duties of master gunner, includes practical and theoretical instruction in mathematics, photography, topography, mechanical drawing, and sea-coast engineering.

The work covered in each of these courses is in part theoretical but is mainly practical, so that a man successfully completing a course can immediately take up at a post the practical work that falls to him.

5. *Training in the Hospital Corps.*—In addition to these schools, the Hospital Corps offers opportunity to acquire proficiency in nursing, sanitation, pharmacy, X-ray, and laboratory work. No formal classes are maintained in such training, which is imparted as a matter of routine to the 3,500 enlisted men in the medical department.

6. *Training in the Signal Corps.*—In a similar way the Signal Corps trains its 1,200 enlisted men in electricity, photography, telephoning, and aviation; and the Engineering Corps its 1,900 men in carpentry, pipe fitting, cement and masonry work, surveying, drafting, photography, and lithography.

CORRESPONDENCE SCHOOL COURSES are taken by 2 to 3 per cent, on the average, of enlisted men. The Government does not actively participate in such work, beyond lending every possible encouragement to the enlisted man who desires to undertake it. As high as 5 per cent of the men in the Engineering Corps have at one time been taking correspondence-school courses in electricity, shop management, the work of the chauffeur, and all types of concrete and masonry work.

THE CHIEF OF STAFF IS IN GENERAL CHARGE of all systems of education for the Army.

THE ARMY TRAINS PROBABLY 10 PER CENT OF ITS MEN in some kind of vocational training; that is, some direct vocational training that they apply immediately on leaving the service. In addition, incidental training that will assist a man very much in some trade is given to a very large per cent of the men. For example, a man of the mounted branch of the service becomes expert in all kinds of stable management—as grooms, drivers, etc. Every man in the Medical Department of the Army is trained in the work of a nurse, apothecary, etc., as an incident to his regular duties. Not all of them becomes apothecaries, but the best men take advanced courses as apothecaries and get increased rank. Practically all of the 3,500 men in that department get vocational training that appertains to the profession of medicine.

The same conditions prevail in other technical branches of the service. In the Engineering and Signal Corps all the men are trained in some vocational pursuit.

The Army has about 10,000 men out of an army of about 85,000 who are always undergoing vocational training.

A good many of the men in the Engineering Corps drift out of the corps when their enlistment is over and into the Engineering Department at Large. The Engineer Corps of the Army has, of course, not only its military side, but its civil side as well. All the river and harbor work is under the Army's general charge and the Army places a great many men, who go out from the battalions, in the engineering district, to grow up with the work. They are taken in as foremen, but they land only where their ability limits them.

THE TRAINING IS VALUABLE IN CIVIL LIFE.—While the Army trains men solely for the purpose of meeting the general efficiency of the service, and does not pretend to train them for their own special benefit, nevertheless a large majority of them go out into civil life and carry with them into that life valuable training for vocations which they received while in the service. The enlistment period is at present four years. Very few of the men after four years care to come back and make the military profession their lifework. This is particularly the case with the more excellently trained men in the service. The higher training they receive the more chance there is and opportunity in civil life of which they take advantage. Discharged soldiers of ability are in universal demand.

Not more than 1 per cent of the men enter the service with the object of securing training in a particular trade in order to go out in civil life and practice that trade afterwards. It is probable that they enlist mainly through the pressure of social conditions. When it is hard to get a place outside, the recruitment for the Army is very easy. When times are good men can easily be placed outside, and the Army has difficulty in getting soldiers. That is the case in times of peace.

THE SERVICE RENDERED BY THE DEPARTMENT OF THE NAVY.

GENERAL EDUCATION.—A system of general education was incorporated by General Order No. 63, issued December 16, 1913, in effect January 1, 1914, with a view to supplying deficiencies in academic education, and also to provide a systematic means by which the enlisted men and warrant officers may receive the assistance and encouragement in technical branches which may be necessary to fit them for promotion in the Navy, and better prepare them for civil trades at the end of their period of service afloat.

The instruction under two heads—academic and technical or professional—is under the general direction of the commanding officer. An executive officer is in immediate charge, and is assisted by all commissioned officers and by such warrant and petty officers as may be necessary in the different departments on board ship.

All men are carefully examined by division officers, to note the deficiencies of each man, the amount of instruction he may have received at the training station, the branches in which further instruction is most needed, the fitness of each man for promotion, the branch for which he is best suited, and the personal and professional ambitions of each individual in order that classes may be formed to secure progress and improvement in the mental and technical training of men in every branch of the Navy service.

This general education is compulsory for men who have not served more than one-half of their enlistment. The men pay for the textbooks used a total of $2.50. The response on the part of the men to these courses in general education is very great, as shown by the fact that 10,000 copies of some of the books are already in use, although these courses did not start before January 1, 1914.

PROVISIONS FOR COMMERCIAL EDUCATION are more limited, although facilities for becoming expert clerks, stenographers, typewriters, bookkeepers, etc., are given to all men desiring such.

There is a school on shore known as the Yeoman's School. The yeomen assist with the admiral's correspondence and in keeping the paymaster's books and the records of the ship itself, its library list, and the records of the men. About 10 men, known as yeomen, are required for purely clerical work on a battleship of 1,000 men. Yeomen's schools are maintained at Newport, R. I., and San Francisco, Cal. In these there are 100 men who, when they become expert in stenography, typewriting, and in knowledge of Navy methods, are transferred to seagoing ships. On board the ships they may, if they so desire, continue such commercial training much farther than is required by the ship's work. For instance, the paymaster is an expert accountant and has a clerk, who is not an enlisted man, who is also expert. These experts offer advanced courses in bookkeeping to all enlisted men desiring such courses.

INDUSTRIAL AND TRADE EDUCATION is covered by the general order. Men desiring such may have instruction as far as the facilities on board ship permit. This will

include boilermaking, carpentering, blacksmithing, electrical work, both general and radio, the operation of steam machinery, catering and cooking, seamanship, and other professional work pertaining to the Navy profession. The instruction in the work pertaining to the Navy profession, such as gun captains and gun pointers, is presented here very briefly in view of the fact that it affects only very remotely the problem before the commission.

This work is entirely optional; but before a man who enlists, for example, as a fireman can be advanced to water tender or machinist, he must pass an examination and must be thoroughly familiar with all of the appliances that he will handle. In order that he may be so prepared, the department furnishes him with a handbook and pamphlets giving the questions that he should know and the answers to the most difficult ones.

Courses at the Electrical Schools.—The department has two electrical schools, one at Mare Island and one at New York. They have, combined, 210 people. Young men just enlisted and showing an aptness for electricity are sent to these schools and are divided into two classes according to their preference and their adaptability. One class is in radio or wireless electricity, work much like telegraphy, and the other class pertains to dynamos, the dynamo engine, switchboards, and methods of wiring. In the schools the men work in machine shops, and learn to make all parts of dynamos and engines; they learn to wire a battleship or cruiser as an electrician on shore learns to wire a house. They are taught all the "faults" and repairs of dynamos and the different kinds of armatures; they know as much about a telephone as an electrician of the telephone company. The work is both practical and theoretical and covers a period of about six months. Upon completion of this instruction, if the man is diligent and ambitious, he is amply qualified to hold any job in ordinary electrical repair work, or in the running of dynamos and engines, should he decide at the end of his term of enlistment to return to civil life.

Courses at the Musicians' School.—All large ships have bands, and in order to keep them supplied the Navy conducts a school at Norfolk, Va., where about 100 men are taught to play instruments. In addition to that all men on board a ship who have talent for music are encouraged to learn to play some instrument. The members of the band receive higher pay than the ordinary seamen.

Training of the Hospital Corps.—There is a school, containing about 100 men, for the training of the Hospital Corps. They receive practical instruction in ward work in the Naval Hospital ashore, supplemented by demonstrations in practical pharmacy, chemistry, lectures on elementary materia medica, anatomy, and physiology. Special attention is also given to work in bandaging, the application of splints, and the transportation of the wounded under difficult and trying conditions.

Courses at the Artificers' School.—The artificers are taught the general construction of vessels, carpentering work, plumbing, fitting, blacksmithing, painting, and all matters pertaining to the repair of all parts of vessels in wood, steel, iron, copper, lead, etc. The school is divided into separate classes for each trade.

Courses at the Seaman Gunners' Schools.—These schools are conducted at the Washington Navy Yard. Every man who has served his entire enlistment is given four months to be reenlisted with continuous pay. A man is sent there to become expert in ordnance, breeching mechanism, the manufacture of shells, and the workings of electrical firing devices. When the men leave these schools, they are rated as gunners' mates, petty officers, and many of them take the examination for officers.

School for Machinists.—There is a school for machinists' mates to afford men of the artificers' branch—engine-room force—the same opportunities to prepare themselves for petty officers, and warrant officers, as the Seaman Gunners' School affords men of the seamen branch. The school is open to men not over 30 years of age, with good records in the ratings of water tender, oiler, or fireman of first class, who have mechanical ability and knowledge of marine machinery, upon reenlistment or in the last year of first enlistment if they care to extend their enlistment beyond the completion of their course, which is 16 months long. The course includes bench work, working with machine tools, work repairing marine engines, etc., and is intended to prepare a man for the duties of machinist's mate on board ship or ashore. It is a splendid mechanical engineering school and a man leaves there well equipped for running the complicated engines of a man-of-war.

Schools for Cooks and Bakers.—One of these schools is at Newport, R. I., and the other at Mare Island.

Mess Attendants' and Waiters' Schools.—This school is for colored boys. They are servants and are taught to wait on table and to care for the officers' clothes and to know whether a uniform is full dress or undress and what garments to lay out

Fuel-Oil Testing School.—At the fuel-oil testing school at Philadelphia, Pa., there are about 30 men under instruction for the purpose of testing fuel oil and becoming familiar with its use.

CORRESPONDENCE-SCHOOL COURSES.—From the information which is available it is reasonable to suppose that about 1,000 men in the Navy are taking correspondence-school courses. On board ship commissioned officers are detailed to take care of the men who are taking correspondence school courses to give them all the assistance they may need in addition to the instruction received from the correspondence schools. About one-half of the men taking these correspondence-school courses are receiving instruction in industrial or trade subjects. It is probable that when the scheme recently established by the Navy Department is fully developed it will largely displace the instruction received by the men through correspondence-school courses.

FACILITIES FOT INDUSTRIAL EDUCATION ON BOARD SHIP.—Until recently industrial education was confined to the shore. Now, however, every opportunity is made to provide facilities for additional vocational training for the men while afloat, and a very large number of men on board ships avail themselves of such opportunities. Courses in elementary engineering in connection with machine shops on board ship are provided for this purpose.

The number receiving instruction from the Navy Department.

(a) In the classes in general education, about	30,000
(b) In the yeoman's classes, commercial education	130
In addition, undoubtedly a larger number will avail themselves of the facilities offered on board ship for acquiring commercial training.	
(c) In the industrial and trade schools conducted at shore stations, as already outlined	1,035
Electrical schools	210
Musicians' schools	100
Hospital Corps Training School	100
Artificers' school	75
Seaman gunners' school	200
School for machinists' mates	200
School for cooks and bakers	125
Mess attendants' schools	25

THE EDUCATIONAL STATUS OF MEN WHO ENLIST.—Of 2,579 men recently enlisted who are now under training at the training stations, only one had never attended school; the others had completed school as follows prior to enlistment:

First grade, grammar school	3
Second grade, grammar school	33
Third grade, grammar school	74
Fourth grade, grammar school	203
Fifth grade, grammar school	273
Sixth grade, grammar school	360
Seventh grade, grammar school	514
Eighth grade, grammar school	541
First year, high school	223
Second year, high school	161
Third year, high school	83
Fourth year, high school	65
Entered college	28
Business schools	17
Total	2,578

As shown above, of the 2,578 men who had attended school, 946 had left the grammar school in grade 6 or below (about 36 per cent). The number who had completed grammar school was 1,101 (about 42 per cent); some of these had attended high school or college.

SUPERVISION OF TRAINING ON BOARD SHIP.—The officer of the Navy Department having immediate charge of the work is the Chief of the Bureau of Navigation, the assistant to the chief of the bureau advising as to many details.

On board ship the commanding officer is primarily responsible. He does not do the teaching, but he is required to see that the work is carried on in accordance with the general order. The executive officer second in command is charged with the general execution of the work. The instruction itself is carried on by the division officer, warrant officers, and petty officers, at least one of whom is responsible for a group of classes. The ship is divided into a certain number of gun divisions. The officer in command of a division has charge of two 12-inch guns, with about 2 officers

and 60 men. These division officers are the actual instructors, assisted by carpenters, plumbers, technical men, machinists, and those skilled in the trades. The officer is in charge of either a group or class of men and actually does a large part of the teaching in every branch. Trade instruction is given by enlisted men in the trades. The General Order establishing the present system of education in the Navy requires that all students in the Naval Academy must, before graduation, be given a short normal course consisting of lectures acquainting them with methods of teaching.

SECTION II.—THE POSSIBILITY OF LARGER SERVICE IN EACH DEPARTMENT.

THE INFORMATION DESIRED.—In investigating the work done by the Federal departments for vocational training the commission desired to learn how the work now carried on could be made both more intensive and more extensive. The questions submitted to the departments in advance of the hearings before the commission and the questions asked at the hearings were designed to bring out the following information as to the possibilities of enlarged service by the departments for vocational education.

1. What are the present demands for—

(a) Publication of material already gathered?

(b) Extension of present lines of service into new fields and more intensively into present fields?

2. What is the character of the studies that are requested, both as to old and as to new fields and lines of service?

3. How much of a popular demand is there for an extension of the work, as evidenced by demands for things already done and the calls upon the departments for assistance?

4. What plans are under consideration for enlarged service and how are these plans to be carried out?

The information obtained on the above questions, as reported at the hearings before the commission by the representatives of the Federal departments is given on the pages which follow.

THE POSSIBILITY OF LARGER SERVICE IN THE BUREAU OF EDUCATION.

THE BUREAU FINDS A VERY READY RESPONSE to its efforts to promote agricultural education in the country. During the last three years there has been almost a revolution in the attitude of public men—State and county superintendents and instructors in normal schools—in regard to the courses of study of the rural schools.

IT IS THE PURPOSE OF THE BUREAU, out of the small increase which has been passed by the House in a pending appropriation bill, to employ three experts; one in trade schools and schools of that type, one in agricultural education distinctively, and one in home economics of household arts.

THE BUREAU IS PLANNING to secure the assistance of the Department of Agriculture and others in reconstructing the courses of study in rural schools on the basis of information received by the bureau from questionnaires recently sent by the bureau to farmers and farmers' wives regarding their needs for specific kinds of information and training that could be given in the school to meet the needs of farm life.

A STUDY OF THE STATUS OF COMMERCIAL EDUCATION in the Southern States will soon be undertaken by the bureau.

THE POSSIBILITY OF LARGER SERVICE IN THE BUREAU OF LABOR STATISTICS.

THE DEMAND FOR THE BUREAU'S PUBLICATIONS.—The first edition of 7,500 copies of the bureau's twenty-fifth annual report, the distribution of which was begun late in 1911, is now exhausted. The present demand on the bureau for this report is about 10 copies a week. A second edition of 500 copies is being made to meet this demand. This second edition will probably not be adequate, but the bureau is simply unable to order more copies because of lack of funds.

THE BUREAU'S STUDIES ALREADY COMPLETED OR UNDER WAY AND ITS PLANS FOR WORK DURING THE COMING YEAR include the following, related directly or indirectly to industrial education:

1. A study and analysis of the occupations in the dress and waist industry, with special reference to the requirements and possibility of industrial education, to be published in Bulletin 145 of the Bureau of Labor Statistics.

2. A similar study of the occupations in the cloak, suit, and skirt industry, apprenticeship plan for cutters, the creation of a commission on industrial education in January, 1914, and a plan for part-time and factory schools, to form a part of Bulletin 147.

3. A study of the employment of women in the boot and shoe industry of Massachusetts, with special reference to the opportunities in the industry and the requirements and possibilities of industrial education.

4. A study of dressmaking as a trade for women, based on a study of earnings for a year and the requirements of the work.

5. An industrial survey of Richmond, Va., especially for the purpose of industrial education. This investigation is one in which the Bureau of Labor Statistics is cooperating with other agencies.

6. Methods of hiring, promotion, and discharge of employees in certain occupations.

7. A study of the requirements of the various occupations in connection with the bureau's regular investigations of wages and hours of labor.

COOPERATION WITH UNIVERSITIES.—The bureau has within the past year received the suggestion that it should cooperate with certain universities in the research work of their graduate students; that the students be given the opportunity to do work under the direction of the Bureau of Labor Statistics; and that the results be available for publication by the bureau and as university credit for the student doing the work. Some of this cooperation has been carried on in the past in this way: Some degree studies have been submitted to the bureau which were entirely suitable for the bureau's purpose, and it has accepted and published them. The suggestion made is that this cooperation be worked out in a more systematic way and that a larger use be made of such opportunities. The plan is entirely practicable, but the great difficulty is that it would call for counsel and criticism and supervision by the Bureau of Labor Statistics to such an extent that the bureau, with its present facilities, is unable to carry out. It would be possible, however, if the Bureau of Labor Statistics were equipped to do it.

THE POSSIBILITY OF LARGER SERVICE IN THE DEPARTMENT OF AGRICULTURE.

THE DEMAND FOR PUBLICATIONS.—Bulletin No. 28 of the Office of Experiment Stations, called "Chemical Composition of American Food Materials," has been exhausted for about five years; and yet the superintendent of documents constantly reprints the bulletin in order to meet the demand. It is the highest standard of compilation of analysis of food materials.

The same thing is true of the set of food charts showing graphically the composition of food materials. They are used by colleges and schools in giving instruction in these topics. The department can not buy any more of them, for lack of funds, and the superintendent of documents has put out four or five times as many as the department did. The people are purchasing them for schools and for the home. Up to date the department has distributed of these bulletins, of which there are 20 or 30 on food nutrition, about 7,000,000 copies to meet the popular demand. Senators and Members of Congress have probably distributed many times more than the department has. These bulletins are distributed only to those who make application. The information furnished in this way is not only in great demand, but is also greatly appreciated. Very frequently persons receiving them reply to the department, thanking it for the information and saying it was just what was wanted.

Newspapers and advertising agencies are also very eager to reprint the bulletins and distribute them for their own use. There is an encyclopedia published in one of the cities of New York State which is made up almost entirely of publications on home problems by the Department of Agriculture.

LARGER FACILITIES ARE NEEDED.—The demand from the schools for publications, illustrative material, and advice regarding education in agriculture and household arts is much greater than the department is now prepared to meet, and it is constantly increasing. The department requires broader authority for work relating to the home, and in response to its request an amendment along this line to the appropriation bill for the next fiscal year has been favorably reported by the Senate Committee on Agriculture. This brings the scope of the nutrition investigations to include the "relative utility and economy of agricultural products for food, clothing, and other uses in the home, with special suggestions of plans and methods for the more effective utilization of such products for these purposes."

It should be understood that the department issues for free distribution a certain number of copies of each of its publications. After that distribution is made, such publications can always be obtained from the superintendent of documents, who fixes a moderate price for them. There is a considerable demand upon the superintendent of documents for the publications of the Department of Agriculture. Indeed, the superintendent of documents probably sells more of the publications of the Department of Agriculture than of any other department of the Government.

THE DEMAND FOR EXTENSION WORK IN HOUSEHOLD ARTS.—In the department's extension work in household arts, only a relatively limited number of women are

reached. It is comparatively a new enterprise, and there has not been a large amount of money put into it thus far. It is undoubtedly a valuable piece of work, and there is a great demand for it at present.

THE POSSIBILITY OF LARGER SERVICE IN THE DEPARTMENT OF COMMERCE.

INVESTIGATION OF COMMERCIAL EDUCATION IS FEASIBLE.—It would be feasible for the Department of Commerce, in its Bureau of Foreign and Domestic Commerce, if it had a modest appropriation for this purpose, to learn what the actual condition of commercial education in the country was and to turn this information over to the Bureau of Education or other agency concerned with the promotion of education. That is to say, if the department had three or four good men who had nothing else to do but devote their time to the actual facts of commercial education, after a year or two, a good view could be obtained of the status of commercial education in the country. Thereafter this information could be continually revised and kept up to date.

THE DEPARTMENT IS SPECIALLY FITTED FOR THIS WORK.—The department's special agents engaged in the investigations of the cost of production, develop a large quantity of information bearing on vocational education which can not be utilized at present. The department could, if it had the necessary staff, turn over this information to a body whose duty it was to promote education. The department is familiar with the avenues, the means for obtaining information concerning commercial education, and if it had the necessary staff it could secure this information very thoroughly. For instance, if it were assumed that the Bureau of Education were the promoting end of the work, the Department of Commerce could constantly turn over to the Bureau of Education facts obtained by the department's examiners, especially if the department had several men who could make this matter of special service. Very illuminating material could thus be obtained which would be very helpful to the Bureau of Education.

INITIAL EFFORTS SHOULD BE MODEST.—It is probably unnecessary to enter into any scheme as large as that needed to secure the information outlined below:

(*a*) Supply and demand for trained commercial workers.

(*b*) Distribution of commercial workers.

(*c*) Vocational guidance of commercial workers.

(*d*) Selection and placement of commercial workers.

(*e*) A descriptive analysis of the world of commercial pursuits into broad lines of employment, such as banking, accounting, business management, executive service, shipping, salesmanship, ordinary clerical work.

(*f*) A descriptive analysis of each one of the above-mentioned broad lines of employment, or their equivalent, into specific occupations, and of these occupations into such important factors as—

(1) Sources of supply of commercial workers in each occupation.

(2) Prevailing salaries of commercial workers in each occupation.

(3) The demands upon the commercial worker in each occupation, as to general education and commercial education.

(4) Opportunities afforded by each occupation to the commercial worker for training for higher responsibility.

(5) What is the next job above in regular order, in each specified occupation, and how far does the experience gained in the occupation prepare for the next position?

(6) Changing conditions of commerce, making for changing requirements upon the commercial workers and thus affecting their needed education.

(*g*) Information with regard to the requirements upon commercial workers in dealing with foreign commerce.

(*h*) Information with regard to the practice and classes of foreign commercial schools of different types.

Such a program would require a very much larger expenditure than is at present in sight. It would mean practically taking charge of both the promotion of commercial training and the direction of it, and the distribution of the results of it, which would be a very large matter. In fact, such a program would require a separate bureau, a bureau of commercial education, and it is questionable whether such extensive work is worth doing now. It is a large task and would involve the expenditure of a large amount of money. It would probably mean the diverting of funds from objects for which they are now more seriously needed. The task of gathering this information might be started soon in a small way, to be handled progressively for one class of workers at a time, but it would be unwise to establish now a bureau of commercial education such as would be needed to gather in a comprehensive way the information outlined. Commercial education in the country is already so far advanced that it is not so important to gather the information indicated for commercial pursuits as it is to gather such information for industrial, trade, and agricultural occupations.

THE POSSIBILITY OF LARGER SERVICE IN THE WAR DEPARTMENT.

No present extension of vocational training of enlisted men is contemplated. A thorough study of the subject is now being made by the General Staff as to the practicability of extending the commercial, agricultural, and industrial feature. It will probably be found that very little more can be done than is already provided.

It is very difficult to devote enough time to the training of enlisted men to produce very much in the way of results further than the department does at the present time. The United States Army probably does considerably more than any army in the world, with the possible exception of the British Army.

THE POSSIBILITY OF LARGER SERVICE IN THE DEPARTMENT OF THE NAVY.

The general education work and instruction in trade and industrial occupations on board ship is just begun, and the work will be extended and developed. To what extent this will be done can not at present be foreseen.

SECTION III.—THE FUNDS NEEDED FOR LARGER SERVICE.

In its inquiry as to the funds needed to prepare each department to render larger service for vocational education, the commission sought information as to—

1. Whether the departments realized they had not met the requirements of the field;
2. Whether they felt they had not been properly equipped to do the work;
3. Whether the failure to render larger service for vocational education has been due to a lack of funds;
4. Whether the departments were willing to undertake additional work in this field but felt that it would not be worth while unless the Federal Government realized the importance of the service and was willing to put money into the venture;
5. The probable cost, as estimated by the departments themselves, of the additional service.

The information gathered on the above questions from the reports of the representatives of the various departments at the hearings before the commission is presented in the following pages.

THE FUNDS NEEDED FOR LARGER SERVICE BY THE BUREAU OF EDUCATION.

THE BUREAU DOES NOT UNDERSTAND THAT IT HAS THUS FAR IN ANY ADEQUATE WAY FOSTERED VOCATIONAL EDUCATION or that it has in any adequate way made any fundamental study of the problem of vocational education.

For three years in succession the commissioner has submitted estimates to Congress for appropriations to enable the bureau to do this work—$40,000 a year for this particular activity has been requested for three years in succession. Congress has not seen fit to make the appropriation. If the bureau had secured the appropriation it could have done before now some rather fundamental work.

A comparatively small addition to the present equipment of the bureau would enable it to cooperate with the Department of Agriculture in furnishing information to the schools as to agriculture and agricultural processes and problems.

THE BUREAU IS ONLY TO A VERY LIMITED EXTENT EQUIPPED at the present time to furnish to schools of the country for use in household-arts education information concerning the home, home processes and problems, or to furnish information concerning trades and industries, trade and industrial processes and problems for use in industrial education. It is not equipped to furnish information concerning commerce and commercial practices and problems for use in commercial education in the country.

It does not now have on its staff a member properly equipped to cooperate with the Departments of Labor and Commerce in furnishing information concerning trades and industries and trade and industrial processes and problems and in working out courses of study based on this information. It should have a group of men for this purpose. Such has been the policy of the bureau as contemplated under the appropriation recently requested.

THE BUREAU OF EDUCATION IS NOT PREPARED TO DO in an effective way any of the work for which it was established, and never has been. It is expected to do a work that would require at least $500,000 to do it thoroughly and well, and it receives much less than one-fifth of that amount.

AN ADDITION OF $100,000 TO THE PRESENT BUDGET of the Bureau of Education would be necessary in order to equip it to do the things which it ought to do in agricultural education, household-arts education, commercial education, and industrial and trade education.

FUNDS NEEDED FOR LARGER SERVICE BY THE BUREAU OF LABOR STATISTICS.

LACK OF FUNDS PREVENTS THE BUREAU from ordering more than 500 copies of the second edition of its twenty-fifth annual report. This number will very likely be inadequate to meet the demands of the public for the report. Only a limited number, about a thousand, of the reports on woman and child wage earners could be printed, and the supplies are now exhausted.

UNABLE TO COOPERATE WITH UNIVERSITIES.—Because of lack of funds the bureau is unable to extend and make more systematic the cooperation already begun between the bureau and certain universities, whereby the bureau secures the services of research students from such universities and gives to the students opportunity to do research work of a practical character for which they receive university credit.

UNABLE TO MEASURE EFFICIENCY OF INDUSTRIAL SCHOOLS.—In connection with the last study of industrial schools made by the bureau it was a part of the plan to follow the graduates of these industrial schools into the occupations and find out just how far the education was proving adaptable to the work they were doing, but the bureau was unable to do so because of limitation of funds.

INADEQUATE EQUIPMENT TO PROPERLY AID INDUSTRIAL EDUCATION.—The equipment of the Bureau of Labor Statistics at the present time is, as already indicated, inadequate to do the work which it should properly do in aid of vocational education. A comprehensive investigation of industrial education should be made covering the field up to the present date in much the same manner as it was covered in the bureau's twenty-fifth annual report. A provision should then be made for a continuous study of industrial education both in this country and abroad. Further than this, such additions to the bureau's facilities should be given as will enable it to include in all of its industrial studies an analysis of the requirements of occupations with reference to industrial education and to make such local industrial studies as may be most helpful to the particular localities and to the country as a whole. It should have a force of special agents at its disposal permanently assigned to this work.

PROBABLY $30,000 WOULD BE REQUIRED to meet the expenses of a new comprehensive investigation of industrial education. For the other studies above specified it is probable that an additional sum of $25,000 yearly should be available.

FUNDS NEEDED FOR LARGER SERVICE BY THE DEPARTMENT OF AGRICULTURE.

THE DEPARTMENT WILL REQUIRE SOME ADDITIONS to its present budget from time to time to meet the reasonable demands for an enlargement of its service relating to education in agriculture and household arts, but these will not be large amounts. It should be in a position to secure, and would need the services of, a limited force of the best trained and experienced experts in these lines. More ample provision should be made for the printing of publications especially suited for use in schools.

The department and the cooperative State agencies are now organized for effective farm extension work in only about one-third of the counties of the United States, and probably less than one-fifth of the farmers are at present being reached by any form of extension work. Only a few thousand of the farm women are as yet reached by extension work in household arts.

The initial appropriation under the Lever bill is $480,000, or $10,000 for each State. This amount is entirely inadequate to meet the requirements for extension work in agriculture and household arts. The additional sums provided for in this measure will greatly relieve the situation to a certain extent, but even when the appropriations under this measure reach their maximum, it is probable that there will still be need of direct appropriation to the department to meet properly the demands upon it in connection with extension work.

FUNDS NEEDED FOR LARGER SERVICE BY THE DEPARTMENT OF COMMERCE.

THE DEPARTMENT OF COMMERCE WOULD NEED $25,000 A YEAR to appropriately equip it with the services of a few men who would continually gather information regarding commercial training and commercial schools in the country, and the efficiency of these schools measured in terms of the success of their graduates in actual commercial work, and turn this information over to the Bureau of Education in promoting commercial education in the country.

FUNDS NEEDED FOR LARGER SERVICE BY THE WAR DEPARTMENT.

No additional appropriations are required by the War Department to carry out its plans for the extension of the training of enlisted men in the service.

FUNDS NEEDED FOR LARGER SERVICE BY THE NAVY DEPARTMENT.

No additional appropriations to the present budget are required for the promotion of the department's work in vocational training.

SECTION IV.—THE RELATIONSHIP OF THE DIFFERENT DEPARTMENTS TO EACH OTHER.

On this question the commission sought information as to the attitude of each department on the following matters:

1. Whether it was necessary through its own agents to gather as first hand material, directly or as a by-product, the information needed for vocational education in its field, or whether other agencies could be equally efficient in gathering such information.
2. Whether the information for vocational education gathered by a particular department could be used in its raw state by the Bureau of Education in developing courses of study for vocational training, or whether such material must first be organized and published in the form of a report by the department gathering it, before it could be used by the Bureau of Education for the schools.
3. Whether it was necessary for each department to maintain specialists who brought to the work both a knowledge of vocations and a knowledge of vocational education of the kind for which each department could render service.
4. What the opinion of each department was as to its relationship to the Bureau of Education in promoting vocational education in the country.
5. Whether there was any possibility of duplication among the departments in their activities in the field of vocational education.

The information gathered on the above questions from the reports of the representatives of the various departments at the hearings before the commission is presented in the following pages.

THE RELATIONSHIP OF THE DEPARTMENTS AS VIEWED BY THE BUREAU OF EDUCATION.

THE BUREAU IS PLANNING TO SECURE THE ASSISTANCE OF THE DEPARTMENT OF AGRICULTURE AND OTHERS in reconstructing the courses of study in rural schools on the basis of information received by the bureau from questionnaires recently sent by the bureau to farmers and farmers' wives regarding their needs for specific kinds of information and training that could be given in the school to meet the needs of farm life.

THE BUREAU HAS A WORKING AGREEMENT WITH THE DEPARTMENT OF AGRICULTURE, by the terms of which the bureau deals with the educational side of agricultural education, while the Department of Agriculture deals with the raw material of scientific knowledge.

THE BUREAU CONSIDERS THAT IT IS NOT ITS FUNCTION to furnish to the agricultural schools of the country information as to agriculture and agricultural processes and problems. The scientific side of this work belongs to the Department of Agriculture. The Bureau of Education is not now equipped for this service. The information should be furnished to the schools by the Bureau of Education in cooperation with the Department of Agriculture. A comparatively small addition to the present equipment of the bureau would enable it to do this work.

Information as to subject matter, courses of study, the method of household-arts education, in both rural and city schools, should be supplied by the Bureau of Education in cooperation with the Department of Agriculture, the latter furnishing the raw material for scientific knowledge to be worked out by the Bureau of Education into courses of study. The Bureau of Education should also furnish information in regard to methods of teaching the subject. The Department of Agriculture can render very valuable assistance in this also.

THE WORK OF THE BUREAU OF EDUCATION BEGINS WHERE THE WORK OF THE OTHER FEDERAL DEPARTMENTS ENDS.—The Department of Agriculture, for example, is established for the purpose of investigating the principles of agriculture and helping people already at work in the fields and on the farm. In their experiment stations they work out a great many valuable principles. A great deal of valuable knowledge comes as a result. They are not, however, an educational agency directly. The Bureau of Education was established by the Federal Government as its central agency, and the connection between the Department of Agriculture and the schools, as educational institutions, should be through the Bureau of Education.

INFORMATION CONCERNING COMMERCE, COMMERCIAL PROCESSES AND PROBLEMS, as actually applied in the business world, should be furnished by the Department of Commerce. The Bureau of Education should work out courses of study from the material furnished by the Department of Commerce and assist in devising methods of teaching and in coordinating this work with other school work and adapting it to the demands of business life. The Bureau of Education and the Department of Commerce should cooperate in this.

TECHNICAL INFORMATION CONCERNING TRADES AND INDUSTRIES, and trades and industrial processes as applied in industrial life, should be furnished by the Department of Labor and to some extent by the Department of Commerce. The Bureau of Education should furnish information concerning education in the trades and industries, the organization of public, private, and cooperative schools, the methods of training teachers, and other phases of the educational side of the question. It should assist in working out courses of study to meet the demands as shown by the studies of the reports of the Departments of Labor and Commerce and in constantly remodeling these to meet changing conditions. The Bureau of Education and the Departments of Labor and Commerce should cooperate in this.

THE BUREAU OF EDUCATION WAS ESTABLISHED TO SERVE AS THE GOVERNMENT'S AGENT FOR PROMOTING EDUCATION in the several States, and in assisting the States and the people of the United States in establishing and maintaining more effective systems of education. It should therefore be the center of Government activities in respect to education. It should work in the closest cooperation with the other Government agencies and draw from them freely any material which they can furnish that will be helpful in the betterment of educational conditions. The Bureau of Education should be recognized as the one agency under the Government to which the public may look for information and advice in regard to all forms of education, whatever they may be. Other Government bureaus should furnish information in regard to the several subjects in which they are particularly interested, and for the promotion and regulation of which they were established. The studies of reports of these bureaus will give the Bureau of Education the information as to what education is needed in the several vocations and walks of life, and will furnish raw material which the Bureau of Education should work up into courses of study for the various kinds and grades of schools, and for the organization and teaching of which the bureau should furnish advice and suggestions.

THE RELATIONSHIP OF THE DEPARTMENTS AS VIEWED BY THE BUREAU OF LABOR STATISTICS.

The following question is asked of the Bureau of Labor Statistics:

"What, in your opinion, is the proper relationship of the Bureau of Labor Statistics and the Bureau of Education in gathering and publishing information concerning industrial and trade schools of such matters as the following: Location, enrollment, plant, equipment, organization, certification of teachers, courses of study, methods of instruction, etc.?"

The matters referred to in this question are practically all such as are covered in the annual reports of the Bureau of Labor Statistics already published. The view is taken that the gathering and publishing of such information should be carried on continuously by the Bureau of Labor Statistics, and in addition the results of the work of the schools should be studied by following the pupils into their occupations and ascertaining the measure of success resulting from the various methods of instruction. In these investigations in the industries the points of view of the workers and the employer must be sought, and for this the confidence of such persons must be secured. An understanding of the industrial demands is practically essential to the securing of satisfactory information from employers and employees.

In the last study of industrial schools made by the bureau it was part of the plan to follow the pupils into the occupations and find out just how far the education was proving adaptable to the work they were doing. But we were not able to do it because of limitation of funds and of time. It would be our purpose, if we could go into that matter again, to give special attention to this question of how far the pupils are profiting by the kinds of instruction they are getting, and if they are not profiting by it, then what it is that is lacking in the instruction.

Much of the information called for in the question above would be obtained with extreme difficulty if the attempt was made by an agency not in touch with industrial conditions and not having established relations with employers and employees. This is especially true regarding such information of industrial conditions as would be useful in the training of teachers of industrial and trade subjects.

IN THE PAST THE BUREAU OF EDUCATION HAS NOT BEEN DOING any of the work in industrial education which the Bureau of Labor Statistics has been doing. They have never had special agents in the field making personal investigations, and all the later work in industrial education by the Bureau of Labor Statistics has been of that kind. The bureau does not feel at all satisfied with any other kind, and does not care to go very much into the reproduction and publication of material of investigations collected by other agencies, or unofficial agencies.

The Bureau of Labor Statistics feels that the Bureau of Education is not now in a position to take over the work in industrial education done by the Bureau of Labor

Statistics. The Bureau of Labor Statistics thinks that the Bureau of Education could not profitably make studies of industries and occupations. It is foreign to all of their other work; it is not foreign at all to our work; it is associated with it.

THE BUREAU COULD GET AS A BY-PRODUCT MUCH INFORMATION concerning the needs for vocational training in industries. It sends out agents to study wages and hours of labor in an industry. It gets information as to the educational needs of that industry in the course of such studies. This work in vocational education is not subordinate to the other work of the bureau but comes as a by-product in connection with such other work and is regarded as a very valuable by-product. The Bureau of Education simply could not get that information without establishing another bureau of labor statistics in the Bureau of Education.

IN SUCH INVESTIGATIONS OF WAGES AND HOURS OF LABOR AND CONDITIONS OF WORK it is deemed necessary by the bureau to consider the character of the work and the occupation in order to make the report complete; that is to say, the bureau is not satisfied to study the wage only, but wants to be able to state also the work the wage pays for. It is therefore necessary to describe the work, because it changes from year to year.

THIS DESCRIPTION OF THE OCCUPATIONS or the character of the work would not however be directly usable without further analysis in the construction of courses of study designed for this industry. A mere description of the occupations without consideration of the purpose of the information in constructing courses of study would be unsatisfactory. The description of the occupations would have to be analyzed in such a way as to reveal the kinds of training needed to fit workers for these occupations and the kind of intelligence that is required. The work must be studied and analyzed in the shop in order to get information regarding the kind of training and intelligence required. Such information could probably not be secured at all effectively by persons who are trained and experienced in the field of education only.

THIS ANALYSIS AND INTERPRETATION of conditions and requirements of industry with a view to forming practical courses of study for industrial schools must, in the opinion of the bureau, be made by the agencies gathering the information. It can not, save perhaps in very few instances, be satisfactorily made in any other way. This does not mean that the Bureau of Labor Statistics should itself make the direct application of the information obtained to methods of instruction in the schools. The bureau should cooperate with the schools in working it up. This had already been done by the bureau in connection with recent investigations in the dress and waist industry and the cloak, suit, and skirt industry of New York City. In these investigations the agents of the Bureau of Labor Statistics not only had the cooperation of employers and employees in the analysis it was making of conditions in the industry, but they were requested by the employers and employees to advise them as to a practical plan of industrial training for these industries. The agents of the bureau in response to this request prepared an apprenticeship plan based on their study of the processes of occupation carried on in the shop, trying to discover what kind of intelligence and what kinds and degrees of skill are required to perform those processes, and with that analysis trying to develop a course of training that will give to the beginners the elements of that intelligence and skill. This apprenticeship plan has been worked out in cooperation with ideas of employers and employees and has been accepted by the latter.

IT WOULD BE POSSIBLE TO DEVELOP A PLAN whereby the Bureau of Labor Statistics could, through its agents in the field, secure much information incidental to its other investigations which would be valuable to the Bureau of Education in promoting industrial education in the country. In so far, however, as such incidental information related to an analysis of occupations or the conditions and opportunities in a particular industry or trade, it would be too crude, unless it was analyzed and interpreted by the agents gathering the material to be of much use to anybody.

THE RELATIONSHIP OF THE DEPARTMENTS AS VIEWED BY THE DEPARTMENT OF AGRICULTURE.

COOPERATION WITH BUREAU OF EDUCATION.—Much of the Government's work relating to agricultural education can be best done by cooperation between the Department of Agriculture and the Bureau of Education. In the past the Department of Agriculture has very largely occupied the field, but the growth of the Bureau of Education and its increased interest in agricultural education, make it desirable that there should be a readjustment of the functions of these two agencies, and this is already being provided for in a cooperative agreement between the Office of Experiment Stations and the Bureau of Education.

In this agreement an arrangement is made whereby the annual report formerly published by the Office of Experiment Stations on the progress of agricultural educa-

tion in the United States and foreign countries, will hereafter be prepared jointly by the Office of Experiment Stations and the Bureau of Education, and will be published by the latter.

THERE PROBABLY OUGHT TO BE SOME KIND OF LEGISLATION by which a definite understanding could be secured as to the functions of these two governmental agencies. Such legislation ought to provide for the definite cooperation of the two agencies rather than the elimination of either one of them. Experience in other countries has brought out very clearly the desirability of having both the ministry of education and the ministry of agriculture deal with the subject of agricultural education.

Under existing conditions the department takes the general position that it is not to deal with each school, but with the organization in the State; so that the department does not expect, of course, to employ a force of people large enough to discuss these matters in every township in the United States. The department's representatives have gone out principally to the meetings of the State teachers' associations and organizations like the National Education Association.

IN ANY NEW LEGISLATION providing for an enlargement of the present activities of the Federal departments along the lines of vocational education it would probably be best to place the administration of the law in one department, and that department should be the Department of the Interior. The Department of Agriculture should, however, be recognized in an advisory capacity, either in the bill itself or else in legislation outside of that defining the functions of the Department of Agriculture with reference to this education.

THE DEPARTMENT OF AGRICULTURE ALREADY HAS A VERY LARGE AMOUNT OF INFORMATION regarding agricultural occupations which would be of very great value for use in the schools. This material should be worked up in suitable form for use in the schools by the Department of Agriculture itself independent of the Bureau of Education. This does not apply, however, to methods of teaching agriculture from material gathered by the Department of Agriculture. The question of the method of teaching agriculture belongs to the sphere of the Bureau of Education.

IN REGARD TO THE GENERAL TEACHING OF AGRICULTURE in the schools as a part of general education, the Department of Agriculture is chiefly interested in the content of what is taught in agriculture and its allied sciences. The Bureau of Education is interested in the broadest way in the methods and organization of such teaching and its relation to the general courses of instruction.

AS REGARDS AGRICULTURAL EDUCATION IN SCHOOLS FOR TECHNICAL AND VOCATIONAL AGRICULTURAL TRAINING, the Department of Agriculture is interested in the content of the courses in agriculture, in the curriculum of such institutions, and generally in all that goes to make up the system of agricultural education conducted in such institutions.

The Bureau of Education is jointly interested in these institutions in so far as they constitute a part of the general scheme of education of the people. It is also interested in the pedagogical side of the curriculum of such schools.

AS REGARDS EXTENSION WORK IN AGRICULTURAL EDUCATION, the Department of Agriculture is interested in the organization, method, and content of such education. The Bureau of Education is also interested in this class of education with special reference to its relation to the general scheme of education and the correlation of practical education in the home and on the farm with education in the schools.

AS FAR AS HOUSEHOLD ARTS EDUCATION IN THE SCHOOLS is concerned, the Department of Agriculture is chiefly interested in the content of such education as related to agriculture and the rural home. Its chief function in this field should be the making of investigations and the supplying of information relating to household arts.

AS REGARDS EXTENSION WORK RELATING TO HOUSEHOLD ARTS, the Department of Agriculture is the best agency for supervising the Federal funds devoted to this work in the States as far as this relates to the rural homes, since this can be most effectively and most economically carried on as a part of the Government system for extension work in the rural communities. Of course this is recognized in the Lever bill.

THE RELATIONSHIP OF THE DEPARTMENTS AS VIEWED BY THE DEPARTMENT OF COMMERCE.

THE BUREAU OF EDUCATION IS OBVIOUSLY THE PRIMARY BRANCH OF THE GOVERNMENT SERVICE IN THE FIELD OF PROMOTING EDUCATION, and in working out that primary function of promoting education it should use material gathered officially by any branch of the Government service for the specific purpose of promoting education. The cooperation of other departments in collecting material should be fully utilized.

It is very difficult to limit the activities of any governmental bureau to a single field. A twilight zone exists in all the departments in Washington, and it is quite impossible to separate them sharply. They ought to get together and cooperate and make sure they are not duplicating their activities so far as spending money is concerned.

A Working Agreement Should be Entered into by the Bureau of Education and the Department of Commerce setting forth the particular function of each. There is practically no limit to the cooperation that could be developed between them. The Department of Commerce has its own agents abroad, who could, as a by-product, collect much information of value to the Bureau of Education. They could secure specific facts about commercial education in foreign countries, which, if the Commissioner of Education would indicate the questions that he wishes to have the department try to answer, the Department of Commerce would be glad to do. It would undoubtedly be quite impracticable for the Commissioner of Education to attempt to gather information of that kind, for he would in effect be duplicating the work of the Department of Commerce.

The Department of Commerce Would Welcome an Opportunity to cooperate with the Bureau of Education by the use of such facilities as are now established. It would be deemed inappropriate to request appropriations for this department for services in promoting commercial education, as it is believed that the Bureau of Education should handle funds that might be allotted for that purpose. The department could undoubtedly assist the Bureau of Education very materially in any service of this kind. For example, information with regard to the requirements upon commercial workers in dealing with foreign commerce could readily be compiled in the Bureau of Foreign and Domestic Commerce in this department. The department's relations with the Consular Service in the foreign field would equip it to give material aid, and its relations with commercial organization in this country place it in an exceptionally favorable position to give views in regard to activities in that field and suggestions of educational service.

The Department of Commerce Could Undoubtedly, so Far as Legal Requirements are Concerned, Use its Present Appropriation for the purpose of securing the information about commerce and commercial conditions needed to promote commercial education in the country, but it would not care to take the initiative in this matter independent of the Bureau of Education, which the department feels has the right to know all about it. This is a matter solely of official courtesy. This information could be obtained on the assumption that it is to promote commercial education, and on the ground that the facts called for are useful to commerce, coming from the Department of Commerce.

If Appropriately Equipped by Having the Services of a Few Men devoting their time exclusively to this work, the Department of Commerce could easily and would be glad to gather information continually regarding commercial training and commercial schools in this country, and the efficiency of these schools measured in terms of the success of their graduates in actual commercial work, and turn this material over to the Bureau of Education for its use in promoting commercial education. Such information would be of great value to the Bureau of Education and could be obtained in a very thorough way by the Department of Commerce if properly equipped for the service.

Much Material Bearing on Commercial Education now comes to this department, through its agents, which it can not organize into useful form to be submitted to the Bureau of Education, because it has no funds for this purpose, and because it feels that it would be entering into the field of the Bureau of Education in taking such action. It is even true that the Department of Commerce must occasionally disregard some very valuable material which is received, or might be easily obtained by its agents in the field, because the department might incur displeasure by accepting such material, or would be compelled to keep its agents on the ground longer than otherwise.

The Question of the Efficiency of the Present Service in Commercial Pursuits in this country is one which is not necessarily within the field of the Bureau of Education. It could readily be investigated by the Department of Commerce.

If a Plan of Cooperation Between the Department of Commerce and the Bureau of Education Were Adopted in an attempt to use material gathered by the Department of Commerce to be studied by the Bureau of Education and organized into courses of study for commercial education, it would not be necessary for the representative of the Bureau of Education conducting such work to have special, technical experience in commercial pursuits, in addition to training and experience in the field of education proper. Such special experience in commercial pursuits could be furnished by a representative of the Department of Commerce, whose advice and assistance could readily be secured by the Bureau of Education.

THE RELATIONSHIP OF THE DEPARTMENTS AS VIEWED BY THE WAR DEPARTMENT.

The War Department is closely in contact with such a wide variety of industries and occupations in its own field of activity that it would not find of value to its own work in vocational training the information that is or could be secured by other Federal departments bearing on the industrial conditions and processes and the methods used in industrial and trade schools in the country to develop workers to effectively meet the present needs in the industries. All the information of this character which the Army needs it can readily secure for itself out of its own activities.

THE RELATIONSHIP OF THE DEPARTMENTS AS VIEWED BY THE NAVY DEPARTMENT.

The Navy Department does not need for its industrial and trade education work the information that could be furnished in this field by other departments of the Federal Government. The Navy's activities themselves bring in so many occupations that if it handles these well there is no need for it to seek information regarding outside occupations.

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63D CONGRESS, 2d Session } HOUSE OF REPRESENTATIVES { DOCUMENT No. 1004

VOCATIONAL EDUCATION

REPORT

OF THE

COMMISSION ON NATIONAL AID TO VOCATIONAL EDUCATION

TOGETHER WITH THE

HEARINGS HELD ON THE SUBJECT

MADE PURSUANT TO THE PROVISIONS OF
PUBLIC RESOLUTION NO. 16, SIXTY-THIRD CONGRESS
(S. J. RES. 5)

IN TWO VOLUMES

VOLUME 2. HEARINGS BEFORE COMMISSION

JUNE 1, 1914.—Referred to the Committee on Education
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WASHINGTON
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COMMISSION

ON

NATIONAL AID TO VOCATIONAL EDUCATION.

SENATOR HOKE SMITH, *Chairman.*

SENATOR CARROLL S. PAGE.
REPRESENTATIVE D. M. HUGHES.
REPRESENTATIVE S. D. FESS.
JOHN A. LAPP.
MISS FLORENCE M. MARSHALL.
MISS AGNES NESTOR.
CHARLES A. PROSSER.
CHARLES H. WINSLOW.

ERNEST A. WREIDT, *Secretary.*

E. A. GOLDENWEISER, *Chief Statistician.*

JOHN CUMMINGS, *Research Specialist.*

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HEARINGS BEFORE COMMISSON ON NATIONAL AID TO VOCATIONAL EDUCATION.

INTRODUCTION.

The brief time available to the commission made it necessary to attempt to confine the hearings to one week, April 20 to April 24, 1914. An exception was made in the case of the Secretary of Commerce, who was unable to appear before May 8, 1914.

A list of questions upon which the commission desired information was submitted, in advance of the hearings, to all persons asked to appear. All hearings were held in Washington.

In Section I, following, are given the statements submitted by representatives of Federal departments; in Section II, statements by individuals and representatives of national organizations; in Section III, letters submitted by individuals and representatives of national organizations. In the appendices will be found the lists of questions submitted to the Federal departments and the questions submitted to individuals and to national organizations.

SECTION 1.

FEDERAL DEPARTMENTS.

SECTION I.—FEDERAL DEPARTMENTS.

MONDAY, APRIL 20, 1914.

SENATE OFFICE BUILDING, *Washington, D. C.*

The commission met at 10 o'clock a. m.

Present: Senator Smith (chairman), Senator Page, Representative Hughes, Representative Fess, Mr. Prosser, Mr. Lapp, Mr Winslow, Miss Marshall, and Miss Nestor; also Mr. Adolph C. Miller, assistant to the Secretary of the Interior, and Commissioner of Education Philander P. Claxton.

The CHAIRMAN. I shall ask Senator Page to preside over your meeting to-day. I shall, of course, inform myself of everytning that takes place, by reference to the reports, but it will be impossible for me to be with you to-day.

STATEMENT OF MR. ADOLPH C. MILLER, ASSISTANT TO THE SECRETARY OF THE INTERIOR.

Senator PAGE. A representative of the Interior Department is with us this morning and is prepared to tell us what that department has to say respecting the questions before us. You have seen these questions, have you, Mr. Miller?

Mr. MILLER. Yes; I have seen them, Senator.

Senator PAGE. And I suppose it is the purpose of the commission this morning to listen to your views upon the particular points which are included in this list. Are you ready to proceed?

Mr. MILLER. I am ready, with perhaps a single suggestion. While I am here in the absence of Secretary Lane, I am here primarily to express his interest in this proceeding and his desire to cooperate with the commission as far as he can in assisting its investigation; but that must, of course, be primarily through our Bureau of Education. Personally I do not feel any particular qualification to elucidate these questions, and almost anything I should offer would be in the nature of secondhand material under the tutelage of the Bureau of Education. A memorandum has been prepared by the Commissioner of Education, setting forth in detail answers to these specific questions. I have looked them over and they seem to me to cover the ground accurately, and while they indicate that the bureau is not doing all that might be desirable, they indicate that it is doing a great deal. The thing that has surprised me is that the bureau is doing as much in this field as it is now doing, considering the great handicaps and limitations under which it operates. The details are brought out here in this memorandum, and I would suggest that, inasmuch as this has been prepared by the commissioner, it will be best to hear him as speaking for the Interior Department at this hearing.

Senator PAGE. As far as I know, the commission is ready to hear Commissioner Claxton now, if he desires to proceed. Is that your wish?

Mr. MILLER. That is my suggestion. I would be very glad to go over this myself, but it would of necessity be in a more or less formal way.

Senator PAGE. Is it your suggestion that he take this paper and present it to the commission?

Mr. MILLER. Yes, sir.

STATEMENT OF DR. PHILANDER P. CLAXTON, COMMISSIONER OF EDUCATION, DEPARTMENT OF THE INTERIOR.

Commissioner CLAXTON. The first question is—"What has the Bureau of Education done to promote the following kinds of vocational education: Agricultural education?"

The Bureau of Education has issued the following bulletins on agricultural education:

1907, No. 2, Agricultural education.

1908, No. 1, Training of persons to teach agriculture in the public schools.

1911, No. 2, Graduate study in agriculture.

1912, No. 1, Course of study for rural school teachers.

1912, No. 6, Agricultural education in secondary schools.

1912, No. 10, Bibliography of education in agriculture and home economics.

1912, No. 18, Teaching language through agriculture and domestic science.

1912, No. 20, Readjustment of a rural high school to meet the needs of a community (agricultural community).

1912, No. 28, Cultivating school grounds in Wake County, N. C.

1913, No. 2, Training courses for rural teachers (with special reference to agriculture).

1913, No. 6, Agricultural instruction in high schools.

1913, No. 8, Status of rural education in the United States.

1913, No. 14, Agricultural instruction in secondary schools.

1913, No. 26, Good roads and Arbor Day (for the purpose of calling attention of children to the need for good roads, the best way of making them, and the planting and care of trees).

1913, No. 32, Educational survey of Montgomery County, Md. (with some reference to the county as an agricultural community).

1913, No. 47, Teaching material in Government publications (an annotated list of material published by the Government which will be helpful to teachers in rural and village schools; especial attention is given to agriculture and allied subjects).

1913, No. 49, Farragut School (a description of a rural consolidated and high school that has been unusually successful in adapting itself to the needs of an agricultural community).

1913, No. 58, Educational system of rural Denmark.

1914, No. 5, Folk high schools of Denmark (this bulletin, together with the preceding one, treats of the adaptation of elementary schools and of a peculiar type of continuation high school to the needs of agricultural and rural life in one of the most successful agricultural countries in the world).

1914, No. 8, Massachusetts home project plan of vocational agricultural education.

Chapters on agricultural education in the annual reports of the commissioner.

The bureau has on hand ready for the printer or in an advanced state of preparation the following additional bulletins:

The district agricultural schools of Georgia.

Agriculture in the high schools of Minnesota.

Agricultural high schools in Mississippi and Louisiana.

A complete study of the school system of Denmark, including the agricultural schools, and the adaptations of the elementary, secondary, and folk high schools to the needs of rural communities.

Gardening in cities, towns, and manufacturing villages.

Representative HUGHES. Dr. Claxton, if I may interrupt you, when will those reports be published?

Commissioner CLAXTON. Just as soon as a new fiscal year begins and we can get some money. The Senate allowed us $10,000 the other day to finish out our printing for this year. The conference committee cut it out, and now the Bureau of Education has no money to do its printing. Its fund would be exhausted at the present rate before Christmas.

Senator PAGE. So that this material to which you refer is not now available to us?

Commissioner CLAXTON. We can furnish you the manuscript, if you desire it.

Senator PAGE. I think it probably would be best that you do that.

Commissioner CLAXTON. Of course, anything the bureau can do to facilitate your work we shall be very glad to do.

A member of the bureau is now studying rural and village schools of the British Isles, with special reference to any work in agricultural education. This study will include the agricultural schools.

Another member of the bureau is studying school gardening and home gardening directed by the school in central European countries.

Representative FESS. How many experts have you in the department working on that?

Commissioner CLAXTON. We have four that we call specialists in rural education, one specialist in higher education, and one specialist in school sanitation and hygiene.

Mr. PROSSER. You have no specialist for industrial education?

Commissioner CLAXTON. We have no specialist for industrial education. I have said in this memorandum that it is the purpose of the bureau, out of the small increase which has been passed by the House in a pending appropriation bill, to employ three experts: One in trade schools and schools of that type, one in agricultural education distinctively, and one in home economics or home arts.

Representative FESS. Have you summed up the numbers of the bulletins, the pages, etc., that have been printed touching this matter?

Commissioner CLAXTON. Well, that is in this memorandum. I do not know the pages, but I have read the list.

Representative FESS. Is it fairly exhaustive?

Commissioner CLAXTON. No, sir; no. We have more on this particular line of agricultural education than any other.

Representative FESS. That is what I mean.

Commissioner CLAXTON. No; it is not exhaustive at all. It is only largely incidental to the general problem of rural education. We have realized for years—I think the bureau has—that the problem of agricultural education is a very important problem and an integral factor in any right rural education.

Representative FESS. Are you finding a very ready response to your requests to further this sort of work?

Commissioner CLAXTON. Very. The response is probably on our part rather than on the other side. I should say that within the last three years—perhaps it would be better to say the last five years—there has been almost a revolution in the attitude of public-school men—State and county superintendents and, in some sections of the country, those who have to do with the training of teachers in the normal schools—in regard to the courses of study of the rural schools.

Representative FESS. That has not reached the floor of the House, however—that revolution.

Commissioner CLAXTON. It is in the country, sir. It has reached the country. It has reached the associations. It is to a large degree in the talking stage as yet, because it requires a good many things before it can be put into actual operation. It requires a readjustment of the organization of the schools themselves. It requires, probably, somewhat of a consolidation of schools; not to the extreme extent that we had in mind some years ago, but some two or three schools could be brought together, and there may be a school farm to be run as a part of the school. Certainly, it requires the preparation of the teachers. All the laws that can be put on the statute books can not change the condition of the school until the teacher can go there and do the work; and a little girl from the city, not knowing barley from oats, can not teach agriculture in a flowerpot in the wintertime, yet they have been attempting to do that largely.

Senator PAGE. Before you proceed I wish to ask whether you discover a persistence in the pressure for this kind of education in one department more than another—that is, in the line of home economics or the industries or agriculture?

Commissioner CLAXTON. No; I think not. It has been a little more persistent in connection with the school organization in agriculture, because there is no possibility, or certainly not the same posibility, of differentiating schools and making a duplicate system in the country. Whatever is done in agriculture must of necessity affect the entire school system of the country. Therefore the people who have to do with the ordinary public school have taken this matter up and are trying to embody it in the public-school system a little bit more than they are in the trade school in the city, because there has been a tendency to separate the trade from the school, making it something apart. I confess it may be a little bad, because it leaves general education on one side and vocational education as a separate thing. I should like to discuss that at more length a little later. To continue, the bureau has begun a careful study of what the farmer and the farmer's wife need to know, because they live in their rural home under country conditions and make their living by farming. This will be used as an element in the fundamental study for the reconstruction of the courses of study in the rural schools. I think that is probably the most fundamental thing that the bureau has undertaken.

Senator PAGE. Will you kindly repeat that?

Commissioner CLAXTON. It is briefly this, to attempt to find out what it is that a farmer needs to know because he is a farmer, because he lives on his farm under rural conditions and makes his living out of the farm, other than what another man would need to know somewhere else. Of course every man in the country is a citizen and also a human being, and he must have education for humanity and citizenship, but he must also be fitted for his particular work and his particular life. We sent out to farmers first—we started with farmers—a list of about 28 or 30 questions, asking what the farmers should know about arithmetic; what they find they need to know about elementary constructive geometry; what they need to know about chemistry and physics; what they need to know about biology, plant and animal life; what they need to know about engineering, road building, fencing, and drainage; what they need to know about the care of machinery and the principles of mechanics; what they need to know about bookkeeping and banking, because a farmer is not a merchant; what they need to know about commerce, buying and selling, because the farmer buys out of the great world and sells his products; what they need to know about the race of trees, about forestry—a list of about 28 questions. We also sent out a list of about 20 questions as to what a farmer's wife needs to know because she is a farmer's wife and lives in the country under conditions different from those of the city.

Senator PAGE. And were the responses to those inquiries satisfactory?

Commissioner CLAXTON. Frequently they are very fragmentary, but some of them are quite satisfactory. The study has not yet been completed. It is necessary to supplement these questions with the work of people who have studied it from the professional side, but we hope to take this matter up with the Department of Agriculture and others, to reconstruct the course of study in the best way. Nobody thus far has ever done that.

Senator PAGE. And has the Department of Agriculture cooperated with you in this work?

Commissioner CLAXTON. Not in this particular work, but I feel quite certain they will do so, knowing their attitude toward it.

Senator PAGE. Have they in any line of educational work?

Commissioner CLAXTON. Oh, yes; we have a working agreement now with the Department of Agriculture. We deal with the educational side of it, while they have the raw material of scientific knowledge.

Senator PAGE. I did not know but there was some friction between you.

Commissioner CLAXTON. Oh, no; the work is too big for there to be friction on either side, I should think. The bureau's specialists in land-grant college statistics and in rural-school education have visited agricultural colleges and high schools in which agriculture is taught, for the purpose of collecting information and giving advice regarding agricultural education. They have also attended national, State, and county meetings of teachers and school officers interested in this subject. The commissioner has written many hundreds of letters giving such information and advice as he could in regard to

the teaching of agriculture, household arts, commercial, industrial, and trade subjects in the schools of various grades, and in regard to the coordination of these subjects with the other subjects of the school and with the home life, and he has made more than a hunderd addresses on these subjects in associations and meetings of teachers, school officers, and citizens. The bureau is now directing some experiments in home gardening, supervised by the school. Experiments so far show it can be done very profitably. That is a little series of experiments we began last year to see if we could not in the suburban districts, the towns, and manufacturing mill districts, like the cotton mills of the South, put in each school a teacher hired all the year around who will teach nature study and elementary sciences in the school and who will supervise the work of the children in their gardens at home in the afternoons of the late winter and early spring and through all the day in vacation time, showing them how to prepare the soil, how to plant, how to cultivate their crop, how to use it in the best way, how to can it, to preserve it, and so on.

Representative FESS. What is the main purpose you have in mind in teaching agriculture to the pupils in the mill districts?

Commissioner CLAXTON. There is not a cotton-mill district in the Southern States that might not be practically self-supporting as a community if the vacant lots and ground inside the village were cultivated thoroughly. The winters are short; the summers are very long. The laws prevent, or should prevent children working in the mills, grinding themselves out before they are 14 or 15 years of age. I think probably the lowest age now is 12. People coming to those towns from the mountains and hills where they have had a wide, open range, though they did not have much money, could live much better than they live in the cotton mills even with twice the money they get as mill workers. A man comes there with his wife and half a dozen children. Forty dollars a month looks large to him, but he has not been there very long before he finds that it takes $5 or $6 a month for house rent. Then it takes something for milk and butter, where formerly he could keep a cow without expense. For eggs it takes something, whereas formerly his chickens were out everywhere and he was getting eggs without cost. For every bit of food they eat they must pay.

Senator HUGHES. Would not the agricultural space there necessarily be very small?

Commissioner CLAXTON. Oh, but it is large enough. This man had a garden, but now if he gets vegetables he must pay for them. And so it goes. Very soon he finds that life is impossible under those conditions with the money he gets. Therefore he becomes discontented, and he moves out, and conditions are worse in the next place to which he goes, because he has spent a part of his money in moving. Now, if the children between 7 or 8 and 14 years of age, let us say, could have an average of a quarter or a half acre each cultivated in vegtables——

Representative FESS. What age do you have in mind now at which the children would work?

Commissioner CLAXTON. Anywhere from 7 or 8 to 14 or 15, when they can go into the mills. I hope that for a child to work an hour or two a day in the garden with a hoe does not seem cruel to the

members of this commission. I myself, I remember, began plowing when I was 7. We lived in a community that two armies had marched over. Two armies had gone to pieces there. Forrest's cavalry had camped on the place for a month. But if my father were a millionaire and I could be born over I would do it again. It is a good thing for a child to work with his feet in the soil, his head in the sunshine, and his lungs filled with air. And I do not believe you can educate any child that does not work; I do not think you can have the best material to be organized into the thing called education unless a child has had some fundamental and direct contact with the forces and phenomena of nature.

Representative FESS. You distinguish sharply, however, between that work outside and the work in the mills?

Commissioner CLAXTON. I would not grind them in the mills or sweat them in the shops. This is work that every child likes to do, that every child begs to be permitted to do. Our experiments have shown that with an eighth of an acre of land, under good conditions, a child can make $100 of food and vegetables. My own boy, without any supervision, on that much land, made $144 when he was 11 years old—joyously and of his own initiative.

Now, if that could be done by those children, three or four of them between the ages of 8 and 14 could contribute materially to the support of the family, and these vacant lots that are filled now with jimson weeds and tomato cans would be places of beauty, and the money that the parents make in the mills might be put into savings banks, and they would have better food to eat out of these gardens which the children cultivate than they can now buy—western bacon, black molasses, and coffee.

Representative FESS. That presupposes that there is a lot to work. What are you going to do in the cities?

Commissioner CLAXTON. I said in the suburban places, the cotton-mill towns. In the heart of Richmond, however, last year, where we are making an experiment, the Bureau of Education provided a little farm. They started the 1st of June. Twenty boys had little lots of sixty-three hundredths of an acre, in the heart of the city, and by the middle of October they had sold $115 worth of products off those places. Most of that land had not been plowed for years; some of it was unbroken sod. Just over here in Alexandria some little negroes began the 1st of May, and some of the individuals made and sold as much as $53 worth.

Representative FESS. Are you acquainted with the effort in Cleveland for school gardening in the public schools? I wonder whether that can be made practicable in most places?

Commissioner CLAXTON. This is the same thing, provided the teacher in the schools supervises the work at home. The city of Memphis at my suggestion last year began it.

Mr. PROSSER. Several questions occur to me here. Do you advocate this work in agriculture in the suburban places in the hope that it will attract people back to the farm?

Commissioner CLAXTON. No; not necessarily. There must be farms, but at the same time we must have the mill village. It is with the hope of making life more tolerable for these people, of giving them better food, of making it possible for the children under

the age when they ought to be permitted to work in the mills to contribute to the support of the family, to give to the child that which it otherwise can not get, through doing some attractive work under intelligent guidance. I think that is the most important thing in it—the educational side.

Mr. PROSSER. All of us favor, of course, the things you have been describing. Would you classify them as vocational education, prevocational education, or general education? I mean the things you are discussing here with reference to gardening.

Commissioner CLAXTON. That is semivocational. It is not to prepare the child for work in the mill nor on the farm, but it is to do this: When these children become men and women and work eight hours a day, if they have learned to do this kind of work it gives them not a vocation but an avocation, something at which they may work at an hour or two hours a day after they are out of the mills.

Then it will do this. I had in mind also, Mr. Prosser, the possibility of people in the cotton mills sending their children to school longer than just to the age of 14 years. You can not educate a child for citizenship in a democracy or for a practical kind of vocational work in our kind of country who leaves school at 14 years of age. That is largely the purpose. If each child averages $75 or $100 a year and then has a means by which he can continue to do so, it is possible for him to go through high school. And if you can do what has already been worked out in one mill village in the South, and which this contemplates also; if you can have a high school in which boys and girls of the factory age may work one week in the high school and one week in the mill, 25 weeks in the mill and 25 weeks in the high school, it is possible for them to get a high-school education if they want to. Then, of course, it would be necessary to adjust the work of that high school to the needs of the people.

Mr. PROSSER. On the whole, you want it for its social and educational value, for the improvement of general education?

Commissioner CLAXTON. Yes, and also preventing the drifting of the mill population from place to place. That is, you want to put people in the villages and hold them there and make their work in the mills permanent, so that they might hope to gain some skill.

Mr. PROSSER. Most of the gain would be desirable but indirect?

Senator PAGE. My experience with mill towns has been largely in New England, where they have more than the average population of the southern towns, but my idea is that the operatives in those mills live back away from the mills themselves and come in by trolley, and that it would not be impracticable for those families to have quarter and half acres, or an acre apiece, or two acres, perhaps.

Commissioner CLAXTON. Yes; the prettiest town I know in the United States is a cotton-mill town down South where every front yard is a flower garden and every back yard a vegetable garden.

Senator PAGE. Speaking of the cotton-mill towns of the South, like Charlotte, for instance, and that class of towns, would they have to go far from the mill——

Representative HUGHES. They would not have to go far to get the ground.

Mr. PROSSER. I should like to ask Dr. Claxton one more question. This commission is primarily concerned with two great

questions. One is the question to which the Commissioner is addressing himself, how the different bureaus at Washington may publish investigations and reports to aid the work in vocational education in the United States, and the other is the question of what national grants, if any, should be given to the States for vocational education. Would you favor national grants for the work you have just been describing?

Commissioner CLAXTON. I think I should. Just let me say however——

Mr. PROSSER. Would you be able to favor them under a statute providing Federal grants for vocational education? Let me put it another way. We are asking you, as Commissioner of Education, for a recommendation on this point. You know the scope and purview of the work of this commission, which is to report on the needs and remedies for the needs of vocational education in the United States. Would you recommend that this commission submit a report in which it proposes a national grant for school-gardening work to be carried on in towns, cities, and villages of the United States as vocational education?

Commissioner CLAXTON. Only to this extent, sir. I think the time is coming—it has come—when we must look to what European countries have done in the way of gardening, using the vacant lots and the lands close up around towns for the relief of what we call the high cost of living.

Mr. PROSSER. We all admit the desirability of that, but that is separate and apart from the question as to whether we are to recommend national grants.

Commissioner CLAXTON. Why should not a national grant that would include general agriculture and field farming also include horticulture? If this may be carried to the extent of making an expert gardener as you would make an expert agriculturist in the open country, I should say that gardening as a profession should be included in it.

Mr. PROSSER. There are many considerations to be taken into account. I am not seeking to be argumentative, but simply seeking to get your point of view. I think the question is whether the States ought not to take care of all education for children under 14 years of age as a part of the social and general education that every child ought to have. A second question is whether or not the attempt on the part of the National Government to give those grants for work by the elementary schools inside of the States might not be an unwarranted interference with the autonomy of those States in carrying on the regular common schools. A third question is whether or not that is the most important thing needing to be done by national grants, admitting for the sake of argument that we can not help everything. Those are the things that are running through my mind.

Commissioner CLAXTON. Your first question, I believe, is——

Mr. PROSSER. The first question is whether or not the States ought not to be expected to take care of this matter of school training.

Commissioner CLAXTON. I think so, sir. I think that so far as the expense of it is concerned it should. So far as having it directed by some Federal Government agency, just as the Bureau of Education

attempts to suggest and to offer advice about any other thing, it should be done.

Representative HUGHES. Does that affect the autonomy of the State?

Commissioner CLAXTON. No; I do not think it affects the autonomy of the State to have advice given it when it asks, and the Bureau of Education has no administrative authority to compel the acceptance of such advice.

Representative HUGHES. I think you used the word "directing".

Commissioner CLAXTON. I mean in the sense of requesting, just as you "direct" the treatment of hog cholera.

Mr. PROSSER. That, however, would be a different thing from a national authority passing on the question of whether or not a school within a State had been effective in its work for purposes of a national grant. The commissioner is speaking now of a purely national bureau. The question I raised was whether or not in the case of a national grant we would be interfering, as it were, with a kind of education with which the States have traditionally dealt. It is a part of the common-school education.

Commissioner CLAXTON. In so far as it refers to grants, if your bill or whatever you have in mind contemplates an appropriation by the Federal Government for purposes of vocational education, then I would say that it should not be given for those purposes any more than it would be given for the purpose of teaching elementary agriculture in the elementary schools, or manual training. But any appropriation that would include vocational education would certainly include gardening—intensive agriculture applied to this particular kind of product—just as it would include field crops in the open country for children above the common-school age.

Senator PAGE. If we should pass a law authorizing Federal aid to agriculture and industrials, and if under that law the towns like the mill towns to which you have referred should wish to add to the industrials some elements of agriculture, of course we should not disturb the autonomy of the States. We should say, Here is a fund; you can use it for agriculture or industrials. But if they should decide to include agriculture in this mill town for the purpose of bringing about the result you have suggested, would you not then have Federal aid for agriculture in that way in those schools?

Commissioner CLAXTON. I should think it would depend upon the age of the children, if you are going to treat it as vocational education; and then, if it is assumed that vocational education can be given only after children have reached a certain stage of development or a certain age, then, of course, you would not give it to the children.

Senator PAGE. That age suggestion is a matter of debate. We did think that so far as the industries are concerned perhaps we ought not to have it apply to any children under 14 years of age; but if we should have an agricultural department in this school in which children of 14 and above were particularly to be cared for, would there be any objection in that department, in agriculture, to removing the age limit and allowing the younger children to come in?

Commissioner CLAXTON. There are so many factors involved in that that I should like to have the question stated a little more definitely before I attempt to answer it. Let me say this, however: You must

consider this as a thing that is coming rapidly. In this country within the next few years the division between the elementary and the high schools will not be at the end of eight years of schooling, but at the end of six years. The natural division point is at 12 or 13, instead of 14 or 15. The tendency is growing very strong now; it is growing more rapidly now than a few years ago toward six years of elementary schooling and six years of high school. And from the standpoint of organization I think you might as well contemplate that by the time any bill you may pass will be in operation such a division may be the rule.

Mr. WINSLOW. Apropos of what you have already said concerning the ages of school children in education, at what age do you think compulsory education ought to stop? Are you in favor of extending the compulsory school age, and to what age?

Commissioner CLAXTON. You can not educate for a democracy—which means self-guidance, which means the understanding of fundamental principles rather than the acquiring of mere information—before the child has come to the years of adolescence, before the time when it can begin to reason deductively to their practical application. You can not educate for citizenship in a democracy, under an autocratic government and a fatalistic industrial society, if children leave school at 12 or 14 years of age, because they learn by obedience and to depend on authority, and in a democracy every man must understand the principles of government, of industrial and social life, so that he may be able to adjust his conduct on the basis of those principles. Children do not reason inductively to abstract principles—they can not—before the age of 12 or 14. The child does not understand history sufficiently to enable him to be an intelligent thinker. To know that Columbus discovered America on a certain day does not enable him to reason on the welfare of society. He must understand the principles of growth of institutional life. The same thing applies if a man is to direct his own energies, or if he is to use his energies to the best advantage in the general economic life of the country. Just how far compulsory attendance should go I am not prepared to say; there are other things involved. In the best of European countries it has for many years been, through the high school, a period up to 18 years.

Mr. WINSLOW. If you had only yourself to consult, what would you do?

Commissioner CLAXTON. I would write it 18.

Mr. WINSLOW. I am in hearty accord with you.

Commissioner CLAXTON. But there are a good many other things. There are circumstances outside, rather than the individual, that must be considered.

Senator PAGE. You are now opening up a new field. You have spoken of the cotton mills of the South. My understanding of the situation there is this, that the men who work in those mills must have the assistance of their children in helping to earn a living for the family, and therefore when a child reaches 12 years of age, if the father must have his services and makes a certificate to that effect, as I understand it, the child is allowed to work in the mills at 12, or possibly younger. But if the child could in some way contribute to the expenditures of the family through the cultivation of

the soil, as you have suggested, it would seem to me very much better for the child and for society.

Commissioner CLAXTON. The mill men think so. I have recently talked with some of the best of them.

Representative HUGHES. Does not that apply to all mill workers?

Commissioner CLAXTON. Yes; not only the cotton mill; anybody who works. For a growing child, without knowledge of the world as yet, plastic, sensitive in his nervous system, and his mind unformed, to go into a sweatshop or the roar of a mill, or into the coal mines, or any conditions of that kind, is probable death to the child; death to his best development certainly. But, on the other hand, for a child to work in the open with a purpose is not only not injurious, but is life and health to him. Of course, as Mr. Prosser says, that is not the problem of vocational education.

Senator PAGE. I had an idea that we in the North compelled a continuous education to an older age than they do in the South.

Mr. WINSLOW. That is true.

Commissioner CLAXTON. In most of the Southern States until very recently they had no compulsory education laws, and now there are only six States that do not have such laws.

Senator PAGE. It seems to me that the ideas you suggest could be so wrought out as to permit your bureau, so far as agricultural education is concerned, to accept a little lower age than 14, to the end that we might assist in developing the work that you have suggested.

Mr. PROSSER. I am afraid that we lose sight of a number of things, here. All experience goes to show that a compulsory education law can not be enforced in any State which leaves to the executive officer in charge of compulsory attendance the option of saying whether or not the child shall go to work below a given age. Many parents will claim that the work of the child is necessary to support the home. We have not developed a type of compulsory attendance officer in this country, as yet, who is able to stand against a strong plea based upon the economic condition of the family. I do not believe, Mr. Chairman, that by school gardening you would be able to put many families in such economic condition as would increase the voluntary attendance of children upon the school. There is only one way to accomplish compulsory attendance for desired ends in a State, and that is through the medium of the absolute enforcement of an age limit. Is not that true, Mr. Commissioner?

Commissioner CLAXTON. That is true. It would make it less burdensome on the parents, on the other side.

Mr. WINSLOW. Would you like to see a compulsory education law throughout all the States?

Commissioner CLAXTON. No; I do not believe that the Federal Government should pass attendance laws at all except for the District of Columbia. Gradually, rather rapidly, the States have adopted them. At present, as I have said, there are only six States that do not have compulsory attendance laws, and some of the best laws in the United States are in cities in the Southern States now, in North Carolina, for instance; and I think it is better and that we will go faster by being patient with the States as they work out their educational laws under the conditions that they have. If the Federal Government should attempt such legislation, Georgia or Alabama

would resent it, and say that those laws were imposed by people who "do not know our conditions."

Senator PAGE. Answering Mr. Winslow, I think we can not pass any bill that undertakes to effect that end.

Commissioner CLAXTON. The next is, "(B) Household arts education."

The bureau has issued the following bulletins:

1909, No. 3, Daily meals of school children.

1912, No. 10, Bibliography of education in agriculture and home economics.

1912, No. 18, Teaching language through agriculture and domestic science.

1912, No. 20, Readjustment of high school to meet the needs of the community.

1913, No. 22, Bibliography of industrial, vocational, and trade education.

1913, No. 49, The Farragut School.

1913, No. 58, The educational system of rural Denmark.

1914, No. 5, Folk high schools of Denmark.

These three bulletins (Nos. 49, 58, and 5) have already been mentioned under (A).

The bureau now has ready for the printer a comprehensive bulletin on the Teaching of home economics in the United States.

"(C) Commercial education."

The annual reports of the Commissioner of Education have for many years contained information in regard to commercial schools and commercial courses of study not only in this country, but also in Europe. No special study has been made of this subject, but the bureau has arranged for a study of the status of commercial education in the Southern States.

"(D) Industrial and trade education."

On this subject the bureau has already issued the following bulletins:

1906, No. 2, German view of American education with reference to industrial development.

1907, No. 1, The continuation school in the United States.

1908, No. 6, The apprenticeship system in its relations to industrial education.

1909, No. 10, Education for efficiency in railroad service.

1913, No. 9, Consular reports on continuation schools in Prussia.

1913, No. 17, A trade school for girls. A preliminary investigation in a typical manufacturing city, Worcester, Mass.

1913, No. 19, German industrial education and its lessons for the United States.

1913, No. 22, Bibliography of industrial, vocational, and trade education.

1913, No. 25, Industrial education in Columbus, Ga.

1913, No. 39, Elementary industrial school of Cleveland, Ohio.

1913, No. 50, The Fitchburg plan of cooperative education.

1913, No. 51, Education of the immigrant.

1913, No. 54, Consular reports on industrial education in Germany: 1. System of industrial schooling. 2. Schools for builders. 3. Preparatory courses for master craftsmen. 4. Meisterkurse at Frankfort

on the Main. 5. The trade institute at Cologne. 6. Schools for fruit growing.

1913, No. 56, Some suggestive features of the Swiss school system. Switzerland has adapted the work of its schools to the needs of the community life with a remarkable degree of success. This bulletin contains a full description of the method by which this has been done.

1914, No. 4, The school and the State in life. A study of the relation between school and employment in England, Scotland, and Germany.

The bureau has on hand ready for printing—

Trade schools of Europe. (An account of the organization and work of trade schools in 25 or 30 industrial cities.)

Drawing in the elementary and secondary schools of the United States. (This bulletin will have value in relation to trade schools, as drawing is an essential element in most trades.)

The school system of Gary, Ind. (Valuable as an illustration of one method of coordinating the cultural and vocational work in a public-school system.)

It has in preparation manuscripts on—

Corporation schools. (Trade schools supported by the larger corporations and guilds.)

The part-time system in engineering school of the University of Cincinnati.

The bureau has begun two studies of the education of immigrants, including their adjustment to their vocations.

One of the bureau's special collaborators is studying the education of minors.

Mr. PROSSER. Do you think the Gary plan could be generally utilized?

Commissioner CLAXTON. I do not see why it could not. I have myself visited Gary twice. We sent two men there, one a member of the bureau and another an expert in educational science, each for about two weeks. The first prepared a manuscript—Dr. Updegraf, who was of the bureau. I gave that manuscript to the other man when he went to Gary, as a kind of a preparation for him; and they are convinced, and I am, that the thing is practicable. There may be things at Gary that are not ideal, but the fundamental principle of working out in the same school some method of teaching for three hours a day the ordinary school studies, and then working out under as nearly as possible trade conditions, training in sewing, dressmaking, painting, woodwork, ironwork, and things of that kind. There are a good many points in that which I think are good, and it seems to me that with modifications——

Mr. PROSSER. That is a prevocational school, is it not, Dr. Claxton?

Commissioner CLAXTON. Yes; but in the high school the boys and girls get some preparation actually for a vocation.

Mr. PROSSER. The boys who finish that trade school do not go into the trades and industries?

Commissioner CLAXTON. Some of them.

Mr. PROSSER. What per cent?

Commissioner CLAXTON. I do not know.

Mr. PROSSER. Do you believe that any school which sets up elementary school graduation as a basis of entrance and offers the usual

high-school studies for a portion of the time is a school that is adapted to meet the needs of this country for trained workers?

Commissioner CLAXTON. Not the immediate need; no, sir. Nevertheless, some vocational educational work is done in that way. Trade school sometimes has the more restricted meaning of a school simply for one particular trade, while the vocational school has more nearly the polytechnic idea. Am I right?

Mr. PROSSER. I think that is a fair statement.

Commissioner CLAXTON. Question 2. "What methods and devices has the bureau used in promoting these different kinds of vocational education?

"(A) Agricultural education?"

Answer. Publications, visitations, of specialists, addresses, and correspondence.

"(B) Household arts education?"

Answer. Publications, addresses, correspondence.

"(C) Commercial education?"

Answer. Publications.

"(D) Industrial and trade education?"

Answer. Publications.

So much for what the bureau has done. Let me say, in regard to all that, the bureau does not understand and I do not want you to think that I mean that the bureau has in any adequate way fostered vocational education or that it has in any adequate way made any fundamental study of the problem of vocational education. For three years in succession I have submitted estimates to Congress for appropriations to enable us to do this work; $40,000 a year for this particular thing I have asked for three years in succession. Congress has not seen fit to make the appropriation. If we had had that, I think we could have done before now some rather fundamental work.

Question 3. "What information, if any, as to agriculture and agricultural processes and problems, has the Bureau of Education furnished to the agricultural schools of the country?"

Answer. The Bureau of Education has furnished no information to schools regarding technical problems in agriculture. Material thus far has related only to the teaching of agriculture and its place in the system of education.

Representative FESS. Not having furnished this information, is that because you are not called upon or because you are not prepared in the department to do it?

Commissioner CLAXTON. Not prepared in the department to do it, and the scientific side of it belongs to the Department of Agriculture. A little later I should like to say just what the method of getting it to the schools should be.

Question 4. "Is the Bureau of Education equipped to render this service or can this service best be rendered by the Department of Agriculture?"

Answer. The Bureau of Education is not now equipped for this service. This information should be furnished to the schools by the bureau of education in cooperation with the Department of Agriculture. A comparatively small addition to the present equipment of the bureau would enable it to do this.

Question 5. "What information, if any, concerning the home, home processes, and problems has the Bureau of Education furnished to the schools of the country to be used in household-arts education?"

Answer. This is answered partly in 1B. The division of home education recently established in the bureau has for its object a close relation between the home and the school and in improvements of home conditions. It operates directly with the homes and indirectly through the schools and meetings of parents held at the school. It now has a correspondence list of ten or twelve thousand intelligent women in rural and village school communities through whom it reaches the homes. It has in preparation a dozen bulletins on specific subjects of home improvement.

Question 6. "Is the Bureau of Education equipped at the present time to render this service?"

Answer. Only to a very limited extent.

Question 7. "Should the information to be used in household-arts education for rural schools be supplied by the Bureau of Education, or should this service be rendered by the Department of Agriculture, which is now carrying on such work to some extent?"

I would like to get this clear, gentlemen, because to me it is, so far as the relation of the department here is concerned, the critical part of what I have to say, the essence.

Information as to subject matter, courses of study, and the method of household-arts education for both rural and city schools should be supplied by the Bureau of Education in cooperation with the Department of Agriculture, the Department of Agriculture furnishing the raw material of scientific knowledge to be worked out by the Bureau of Education into courses of study. The Bureau of Education should also furnish information in regard to methods of teaching the subject. The Department of Agriculture can render very valuable assistance in this also.

Representative FESS. The Department of Agriculture would serve as a laboratory?

Commissioner CLAXTON. Would serve as a laboratory. My idea about the relation of the Bureau of Education and all these departments is this: That we begin where they end. The Department of Agriculture is established for the purpose of investigating the principles of agriculture and helping people already at work in the fields and on the farm. In their experiment stations they work out a great many valuable principles. A great deal of valuable knowledge comes as a result. They are not an educational agency, however, directly. The Bureau of Education was established by the Federal Government as its central agency, and the connection between the Department of Agriculture and the schools, as educational institutions, should be through the Bureau of Education. A little later I want to develop that further.

Question 8. "What information concerning commerce, commercial practices and problems, if any, is the Bureau of Education now furnishing for use in commercial education in the schools of the country?"

Answer. None.

Question 9. "Is the Bureau of Education equipped at the present time to render this service?"

Answer. No.

Question 10. "Should this information be supplied by the Bureau of Education, or should it be furnished by the Department of Commerce?"

Answer. Information concerning commerce, commercial practices and problems as actually applied in the business world, should be furnished by the Department of Commerce. The Bureau of Education should work out courses of study from the material furnished by the Department of Commerce and assist in devising methods of teaching and in coordinating this work with other school work and adapting it to the demands of business life. The Bureau of Education and the Department of Commerce should cooperate in this.

Question 11. "What information, if any, concerning trades and industries, trade and industrial processes and problems has the Bureau of Education furnished for use in industrial education in the schools of the country?"

Answer. The Bureau of Education has furnished no information concerning trades and industries and trade and industrial processes and problems, except as they relate to education. For matter on this subject see 1D.

Question 12. "Is the Bureau of Education equipped at the present time to render this service?"

Answer. Only to a very limited extent.

Question 13. "Should this service be rendered by the Bureau of Education, or should the information be supplied by the Bureau of Labor, which, at the present time, is doing such work?"

Answer. Technical information concerning trades and industries and trades and industrial processes as applied in industrial life should be furnished by the Department of Labor and to some extent by the Department of Commerce.

Mr. PROSSER. What do you mean by "technical information," Dr. Claxton?

Commissioner CLAXTON. I mean information in regard to trades and their relation to the economic life of the country as it applies to men and women already engaged in them, not to the educational side, except as it can furnish material that the Bureau of Education—that educators generally, possibly with the help of the Bureau of Education, may work out for courses of study to prepare for this thing which the Department of Labor feels necessary.

Mr. PROSSER. You are using the word "technical" there in rather a wide sense.

Commissioner CLAXTON. I am.

Mr. PROSSER. You mean special information of every kind relating to the trades and industries, such as would be useful and helpful in schemes of education?

Commissioner CLAXTON. Yes; it is technical in that sense; not in the narrow sense of technical for educational purposes.

The Bureau of Education should furnish information concerning education in the trades and industries, the organization of public, private, and cooperative schools, the methods of training teachers, and other phases of the educational side of the question. It should assist in working out courses of study to meet the demands as shown by the studies of the reports of the Department of Labor and the Department of Commerce, and in constantly remodeling these to

meet changing conditions. The Bureau of Education and the Departments of Labor and of Commerce should cooperate in this.

Mr. PROSSER. Have you anybody in your bureau who is equipped to handle the work?

Commissioner CLAXTON. No; we should have a group of men for that. It has been my policy and is one of the things contemplated under the appropriation.

Senator PAGE. Your notion is that they should gather such information?

Commissioner CLAXTON. The farming problem is a little simpler than the rather complex industrial life, but it is less varied than the educational side of farming, which we know is very complex; but the vocational life of the trade of making shoes is simple in itself, but there are a great many occupations involved.

Question 14. "What is the Bureau of Education doing to assist in the training of teachers for any of the above forms of vocational education?"

Answer. For several years the Bureau of Education has been calling the attention of normal schools and the department of education in colleges and universities to the importance of preparing teachers for the several vocational subjects. A little more than two years ago, the commissioner of education wrote to the presidents of the land-grant colleges, urging them to use a large portion of the $25,000 appropriated annually to these colleges in each of the several States under the Nelson amendment to the land-grant college act, to prepare teachers of agriculture, household arts, and the trades and industries in secondary schools. It has published one or more bulletins showing what changes have recently been made in the work of the normal schools to this end. Two years ago the commissioner suggested to the Commissioner of Education at Porto Rico a plan by which fifteen or twenty thousand dollars of this fund is used each year for training teachers in this subject for the public schools of this island. This plan provides for the teachers now in service as well as for students in the normal schools preparing for this work. Under this plan practically all of the teachers in the public schools of the island have had some systematic and effective instruction and training. Recently the bureau has arranged for a group of 25 to 30 teachers of the manual training and industrial arts in different parts of the country, to study for three months in the vocational schools and continuation schools of Munich. These teachers began their work on the 15th of this month, and will continue to the 15th of July. For this, special permission was granted by the mayor and council of the city of Munich. The bureau selected the teachers from a list of applicants and arranged for their passage.

Question 15. "What, in your opinion, is the proper place and relationship of your bureau to other Government bureaus in furnishing information and helping in various ways the above forms of vocational education?"

Answer. The Bureau of Education was established to serve as the Government's agent for promoting education in the several States and in assisting the States and the people of the United States in establishing and maintaining more effective systems of education. It should therefore be the center of Government activities in respect to

education. It should work in the closest cooperation with the other Government agencies and draw from them freely any material which they can furnish that will be helpful in the betterment of educational conditions. The Bureau of Education should be recognized as the one agency under the Government to which the public may look for information and advice in regard to all forms of education, whatever they may be. Other Government bureaus should furnish information in regard to the several subjects in which they are particularly interested and for the promotion and regulation of which they were established. The studies and reports of these bureaus will give the Bureau of Education information as to what education is needed in the several vocations and walks of life, and will furnish raw material which the Bureau of Education should work up into courses of study for various kinds and grades of schools and for the organization and teaching of which the bureau should furnish advice and suggestions.

Gentlemen, just after receiving your request, I was asked to come at 11.30 before the Appropriations Committee on the sundry civil bill, in which is the appropriation for our work in the West. It is only five minutes until that time.

Senator PAGE. When will you come again?

Commissioner CLAXTON. Any time after I get through there.

Representative HUGHES. In event anything should occur that he could not return, could he not answer these questions here which he has?

Commissioner CLAXTON. I will read those answers. I believe I can get through with them now.

Representative FESS. There is one thing important to us that you probably have not gathered, which I would like to mention to you when you come before us again. We think one of the most important functions of this commission is to find out whether there is a duplication of work by the departments in Washington, whether the Bureau of Education does not do the kind of work it would like to do or ought to do because there is no provision for it. You have said "We are not prepared for this; there ought to be so and so." That to me is a very important feature.

Commissioner CLAXTON. The Bureau of Education is not prepared to do in an effective way any of the work for which it was established.

Representative FESS. That is the point.

Commissioner CLAXTON. And never has been. We are expected to do a work that would require at least $500,000 to do it thoroughly and well, and we are given much less than one-fifth of that amount.

Representative FESS. We do not expect you to say that in three minutes.

Question 16. "What additional appropriation, if any, to your present budget, would, in your opinion, be necessary in order to equip your bureau to do the things which you think it ought to do for all the above forms of vocational education?"

Answer. One hundred thousand dollars. The lower House of Congress has recently voted to increase the lump sum appropriated to the Bureau of Education under head of rural schools and industrial education, from $15,000 to $30,000. If this amount is retained in the appropriation bill, it is the purpose of the commissioner to use it for salaries and traveling expenses of specialists in agricultural

education and education in the trades and industries and in education in the household arts.

Gentlemen, I will have to ask you to excuse me now.

Mr. PROSSER. Mr. Chairman, would it be possible for the commission to be in a position to recall Dr. Claxton to ask him questions with regard to the material which we have gone over here rather hurriedly.

Commissioner CLAXTON. Yes, sir; at any time after I get through with the committee. I suppose I will be there an hour, and I am at your service.

STATEMENT OF ALBERTUS H. BALDWIN, CHIEF OF BUREAU OF FOREIGN AND DOMESTIC COMMERCE, DEPARTMENT OF COMMERCE.

Senator PAGE. Mr. Baldwin, before you make your statement, will you please give your name and official designation in the Department of Commerce, and state the particular features that you propose to discuss this morning?

Mr. BALDWIN. Mr. Chairman, my name is A. H. Baldwin, Chief of Bureau of Foreign and Domestic Commerce of the Department of Commerce. The Secretary of Commerce, Mr. Redfield, was to have been here this morning, but a special meeting of the Cabinet prevented, and he begged leave to express his regret and his desire that I speak for him, as far as I could, at this meeting.

The Secretary referred the letter of this commission to my office last week, and I drafted specific answers to the series of questions which was transmitted by the commission, and I can read my statement to the commission if it so desires.

The CHAIRMAN. You may proceed, Mr. Baldwin.

Mr. BALDWIN. In general it should be pointed out that it is not, under existing law, the primary function of the Department of Commerce to promote "education," even commercial education, and for that reason no official investigations have been made in this field. In answer to the questions of the commission, the following statement is made:

Question 1. "What evidence has the Department of Commerce that there is an urgent need for commercial education in this country of a type not now being given extensively?"

Answer. The department has little or no official evidence that there is lack of opportunity for commercial education in the United States. Our records indicate that facilities for such education are provided adequate to the present demand; this demand, however, is not what might be termed an "enlightened" demand in this field.

Question 2. "To what extent is the Department of Commerce now assisting States and local communities by furnishing information either as to the need of commercial education or as to facts to be used in commercial education?"

Answer. The Department of Commerce is now assisting States and local communities by furnishing information in regard to commercial education only when requested to furnish specific facts.

Question 3. "Is the Department of Commerce taking steps to promote commercial education in this country, and, if so, what steps?"

Answer. The department is officially taking no definite steps to promote commercial education further than occasionally to invite attention to the subject in speeches before commercial organizations.

Representative FESS. Doctor, may I ask what is the significance of the word "officially"?

Mr. BALDWIN. I am speaking as a Government official, charged by law with certain duties. The law does not charge our department with the duty of promoting education. Our function is to promote commerce, to promote the development of trade, manufactures, and commerce in all respects.

Representative FESS. I wondered if there were persons identified with the department that were doing certain work voluntarily?

Mr. BALDWIN. It is impossible to prevent our work being educational in effect, but speaking under legal terms, we have no function of promoting education. Our function is to promote commercial welfare rather than educational progress.

Mr. PROSSER. Doctor, suppose the Department of Commerce had asked for an appropriation in its budget for the purpose of dealing with commercial education, would such an appropriation be regarded as being within the scope of the duties of the Department of Commerce, as defined by previous legislation?

Mr. BALDWIN. I think not.

Mr. PROSSER. That is to say, you are of the opinion that the Department of Commerce could not handle the subject in an official way without a special authorization for that purpose by Congress?

Mr. BALDWIN. Yes.

Mr. WINSLOW. Not even through a bulletin giving voluntary information. You would not feel that your charter allowed you to issue official bulletins concerning educational material for commercial education?

Mr. BALDWIN. We should feel that we were duplicating the functions of the Bureau of Education if we issued any such bulletins without full knowledge of that bureau and the consent of that bureau that our bulletin lay within our territory to a sufficient extent to permit us to publish it.

Mr. WINSLOW. But your commercial agents have gathered as a by-product a very considerable amount of information——

Mr. BALDWIN. That is so.

Mr. WINSLOW. Which could be worked up into a bulletin——

Mr. BALDWIN. Undoubtedly.

Mr. WINSLOW. Showing what is being done in foreign countries.

Mr. BALDWIN. Undoubtedly.

Mr. PROSSER. But at the present time, both because you are not equipped and because you do not think it lies within the scope of your duties, that material is not being worked up for such a purpose?

Mr. BALDWIN. Not for that purpose.

Mr. WINSLOW. Your daily report occasionally carries some discussion with reference to commercial education, but very briefly?

Mr. BALDWIN. Very briefly; it is impossible for us to keep out entirely from the field of many of the branches of the service.

Mr. WINSLOW. By that I mean it is simply a by-product?

Mr. BALDWIN. A by-product.

Mr. WINSLOW. By which you are almost compelled to put into your daily bulletin certain material.

Mr. PROSSER. Possibly you have answered this question further along.

Mr. BALDWIN. I have.

Question 4. "Attached hereto is a memorandum giving a description of some of the kinds of information that is needed in the promotion of commercial education in this country. Is the department at the present time collecting any of this information?"

Answer. The department is not at present collecting the information outlined in Exhibit A.[1]

Question 5. "Is it the opinion of the department that the collecting of this kind of information is a legitimate part of its duties?"

Answer. It is not the opinion of the department that the collection of this kind of information is a legitimate part of its duties, under existing law, further than to cooperate with the Bureau of Education.

Question 6. "Is the Department of Commerce in a position to furnish, within the next 10 days, a statement to be incorporated in the report of the commission, describing its present and proposed activities in promoting commercial education; and, in addition, what additional appropriations to the present budget it needs for the promotion of this work?"

Answer. The Department of Commerce could, within the next 10 days, furnish a statement describing its attitude toward service for the promotion of commercial education, indicating that this department would welcome an opportunity to cooperate with the Bureau of Education by the use of such facilities as are now established. It would be deemed inappropriate to request appropriations for this department for service in promoting commercial education, as it is believed that the Bureau of Education should handle funds that might be allotted for that purpose.

It may be added that this department undoubtedly could assist the Bureau of Education very materially in any service of this kind, and the close relations of the Department of Commerce to the commercial public places it in an exceptionally favorable position to advise in regard to the details of commerce.

For example, in Exhibit A, paragraph G, "Information with regard to the requirements upon commercial workers in dealing with foreign commerce" could be readily compiled in the Bureau of Foreign and Domestic Commerce of this department.

I might add that our relations with the Consular Service in the foreign field would equip us to give material aid, and our relations with commercial organizations in this country place us in an exceptionally favorable position to give views in regard to the activities in that field and to suggest educational service.

Mr. WINSLOW. It is true that you are gathering a lot of material you do not use.

Mr. BALDWIN. It comes to us.

Mr. WINSLOW. It comes to you through your agents, that you simply can not use, because you have no authority to use it.

Mr. BALDWIN. That is true.

Mr. PROSSER. Is it also true that you do not feel that you could legally use any fund now given for the working up of that material in the form in which it could be handed over to the Bureau of Education?

Mr. BALDWIN. We should feel we were entering the field of their functions in taking such action in the field of education.

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[1] For Exhibit A see list of questions, p. 288.

Mr. PROSSER. In the last analysis, then, the position of the Department of Commerce is that they have a great deal of by-product relating to commercial education on file in the office, and that they would be willing to have the Bureau of Education send its people, paid out of the Bureau of Education, down into the files of the Department of Commerce, to take hold of this raw material, undigested, and digest it.

Mr. BALDWIN. We would go further than that; we would assist them in every way to obtain additional information, with the facilities that we have in our hands.

Mr. PROSSER. It would be purely as a by-product, so far as your office is concerned.

Mr. BALDWIN. Yes.

Mr. WINSLOW. Is it true, Mr. Baldwin, that you must occasionally disregard material that is worth while from your agents in the field, excellent material, that can be used, and you disregard it because it would incur displeasure and also mean that your agents would be longer on the ground than otherwise?

Mr. BALDWIN. That is true.

Representative FESS. The cooperation you speak of ought to be initiated by the Bureau of Education rather than by the Department of Commerce?

Mr. BALDWIN. Yes, sir. I might add that I wrote on March 10, 1911, to the former Commissioner of Education, bringing up this subject and offering to cooperate in every way possible. That letter is in my files somewhere in my office, in the old Bureau of Manufactures.

Representative FESS. Our purpose here is to try to ascertain whether there is unnecessary duplication in the departments, and whether there could be more unification in work. We are trying to get at the facts simply.

Mr. BALDWIN. There is an offer of endeavor to cooperate between our bureau in relation to all the bureaus and branches of the Government. We transmit many reports on education to the Bureau of Education, in fact, some of those reports that were mentioned in the commissioner's statement passed through my office. I recall one or two of them.

Mr. PROSSER. In case the plan you suggested was carried out, it would be necessary for the Bureau of Education to have in its employ people with commercial training who were able to interpret that material?

Mr. BALDWIN. Well, their point of view would be the point of view of the educator, I assume, and any knowledge we might have of commerce would be of material assistance.

Mr. PROSSER. Do you believe that a person that has had experience in regular education only, and not particular and technical experience in commerce, would be in a position to take hold of that material and use it to the best advantage in making a careful study and devising a method of instruction for commercial education?

Mr. BALDWIN. I think so, with the advice of our people—our commercially trained people.

Representative FESS. It appeared to me that the Department of Commerce, with its peculiar relation to the industries of the country and their relationship to other countries, would be in an admirable

Mr. BALDWIN. These questions in Exhibit A I did not answer, because I stated in general——

Mr. PROSSER (interposing). You mean question 4 in Exhibit A?

Mr. BALDWIN. We stated that we had made no official investigations in this field, but that we could assist in answering many of these questions.

Mr. PROSSER. Do you believe that an investigation of the efficiency of the commercial school work of the country should be carried on by the Bureau of Education and not by the Department of Commerce?

Mr. BALDWIN. I should think so; yes, sir.

Mr. LAPP. Would you consider that No. 1 was purely a matter your bureau should initiate—is it not a matter closely connected with commerce to measure the efficiency of the present system of commercial education and to suggest lines of improvement?

Mr. BALDWIN. We could, as I stated before, take up that sort of a subject and investigate it and make a report on it, assuming that the Bureau of Education would be willing to have us take that action, and would welcome our cooperation with their service in the field.

Mr. LAPP. Would you consider that peculiarly a matter that is a function of the Bureau of Education?

Mr. BALDWIN. This question asks, "How efficient is the present service in commercial pursuits in this country?" That does not necessarily bring it within the field of the Bureau of Education.

Mr. LAPP. That is what I wondered.

Mr. BALDWIN. We could take up such a subject as that; that does not apply to education at all.

Mr. WINSLOW. Your charter is broad enough to take up all the matters in Exhibit A?

Mr. BALDWIN. Yes, sir.

Mr. WINSLOW. And to make an extensive study under each and every one of those questions, if you had sufficient funds to do it?

Mr. BALDWIN. Yes, sir.

Mr. LAPP. If the law expressly authorized the Bureau of Commerce to take up these subjects and leave the educational applications to the Bureau of Education—if you were given specific authority?

Mr. BALDWIN. If Congress instructs us to make a certain investigation that lies within the legal authority of another department, we should call attention to that fact and urge Congress to permit us to carry out their wishes in complete cooperation with the bureau that is assigned that function by law. You know, of course, that occasionally those things are done; a certain bureau is assigned a task by Congress, when the organic law gives some other branch of the service that specific duty. That has happened with us several times.

Mr. WINSLOW. My notion is that the different departments function as gatherers of information, and that the Commissioner of Education functions as an officer for the distribution of information gathered by those departments in cooperation, with an administrative board known as an advisory board to advise with him with reference to the methods by which such information should be distributed; that is to say, I mean the information plus such grants as may be given by Congress.

Mr. BALDWIN. I would agree to that; that ought to work out.

Mr. WINSLOW. This latter function would mean that there would be no duplication. I mean the function with reference to gathering material. There would be no notion of duplication with an advisory board supervising, as it were, the work that is to be done.

Mr. BALDWIN. I should state that my comprehension of the function of a bureau of education is that it is the primary branch of the Government service in the field of promoting education, and that in working out that primary function of promoting education it would use material gathered officially by any branch of the Government service for the specific purpose of promoting education, and that the cooperation of other departments in collecting material could be utilized fully.

Mr. LAPP. Reverting to Exhibit A,[1] the first page, it seems to my mind that a clear line could be drawn between the work that the Department of Commerce does and the work that the Department of Education would do in promoting commercial education. For instance, No. 1, "How efficient is the present service in commercial pursuits in this country?" Supposing the Bureau of Education should start out on an investigation of this subject. Would you consider that it was infringing upon your territory?

Mr. BALDWIN. I should think so.

Mr. LAPP. Having made that study for the purpose of knowing what is needed to promote commerce—not education, but commerce—having raw materials on hand, the Bureau of Education would take that material itself and put it in the form of courses of study and materials for the school, and there would be a clear line there. You could make that investigation as to "how efficient is the present service in commercial pursuits in this country?"

Mr. BALDWIN. We could make it.

Mr. LAPP. And the second, "What are the causes of inefficiency?" You could make that as a distinct part of the work without any reference to the Bureau of Education?

Mr. BALDWIN. Yes, sir.

Mr. LAPP. When you come to the next one, would that still be a matter that you could consider?

Mr. BALDWIN. We could consider it from our point of view, promoting commerce. There is scarcely anything that we could not take up. We could say that this information is necessary for us in our function for promoting commerce; but I should hesitate to take up such a subject without the full knowledge of the Bureau of Education.

Mr. PROSSER. That is a matter of official courtesy. Is that what you mean?

Mr. BALDWIN. That is all. We could do it.

Mr. LAPP. You would feel it was a pretty good thing, in promoting commerce, to know what is needed?

Mr. BALDWIN. Yes, indeed.

Mr. PROSSER. I do not think the Bureau of Education would object at all to having the Department of Commerce measure the efficiency of the commercial training now being given in this country. I think this would be information that the Bureau of Education would welcome, from what Dr. Claxton said this morning.

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[1] For Exhibit A, see Appendix B, p. 288.

Mr. LAPP. The Commissioner of Education was speaking with reference to the agricultural function; that is, the Department of Agriculture studies scientific processes, and he considered that his function was, possibly, to take the material and work it out in courses of study. There is a large mass, is there not, of commercial practices and processes that would directly relate to education?

Mr. BALDWIN. Oh, yes.

Mr. LAPP. And it would be of advantage?

Mr. BALDWIN. Yes. That twilight zone exists in all the departments in Washington. It is very difficult to limit the activities of a bureau in a single field.

Mr. PROSSER. It is not confined to education, because brown bears belong to one department and black bears to another.

Mr. BALDWIN. Exactly. And the Department of Agriculture has a division of commerce now which you might expect to find in the Department of Commerce. It is quite impossible to separate the various departments sharply. They ought to get together and cooperate and make sure that they are not duplicating their activities, so far as spending money is concerned.

Mr. LAPP. What are some of the things that the Bureau of Foreign Commerce has gathered concerning the promotion of foreign commerce that would be of distinct value to a commercial school of the country? What are some of the reports that you have made?

Mr. BALDWIN. There is no end of the material of that kind.

Mr. LAPP. Give us some of the suggestive things.

Mr. BALDWIN. We have made studies of activities of commercial organizations in foreign countries, and the consular officers who report to us on commercial matters send in a great deal of material on commercial education which we send on to the Bureau of Education. But, as to the field of commerce, we can gather any sort of facts that we arbitrarily declare to be facts that will promote commerce, when we distribute tham as bulletins of our department.

Mr. LAPP. If you had entered into a working agreement with the Bureau of Education as to what would be the function of each, there is no limit to the cooperation that could exist?

Mr. BALDWIN. No; there is no limit. We have our own agents abroad, who could, as a by-product, collect other facts; or the Commissioner of Education might want to know about commercial education in a foreign country, specific facts. If he would indicate the question that he wishes to have us try to answer, we would be glad to do so.

Mr. LAPP. And, on the other hand, do you not think it would be impracticable for the Commissioner of Education to attempt to gather information of that kind?

Mr. BALDWIN. Quite impracticable, in his existing province, I should say.

Mr. LAPP. Practically he would have to duplicate the work of the Department of Commerce in gathering it?

Mr. BALDWIN. Yes, sir; practically. We do not hesitate to ask several branches of the Federal service to help us when the facts are outside of our territory and we want to get them. We ask the Department of Agriculture, the Bureau of Chemistry, or any other branch of the service to give us expert advice on matters in their activity.

Mr. LAPP. I understand that the Bureau of Education has no one who is engaged in special commercial education.

Mr. BALDWIN. Oh, I see.

Mr. LAPP. If there were to be created a bureau of commercial education in addition to the Bureau of Education, what would be the type of person to carry on that work most effectively?

Mr. BALDWIN. Somebody like Prof. Gay, at Harvard, who is doing it now for them; or Prof. Charington, who is in the Philadelphia Museum.

Mr. LAPP. A person not only familiar with commercial schools but commercial education itself, as carried on, would not necessarily be qualified?

Mr. BALDWIN. Not necessarily; no. He would be essentially a specialist in commercial education. I assume that he would have studied the relations of education to commerce more closely than the average educator.

Mr. PROSSER. Would not the tendency of a highly-trained specialist be to lay the emphasis on the higher reaches, the mere technical problems in commerce, rather than preparation for the great army of workers whose inefficiency is one of our great troubles to-day?

Mr. BALDWIN. Possibly.

Mr. WINSLOW. I am wondering if we should request Mr. Baldwin to come back again whether he would come back if we wanted to ask any further questions at some other time.

Mr. BALDWIN. I should be very glad to. I am going to be away for the next three days.

Mr. WINSLOW. I mean after that.

Mr. BALDWIN. Of course, I should be very glad to.

Mr. PROSSER. When your department, within the next 10 days, supplies us with its answer, which will, of course, be based on the material you read to us to-day, would it be possible to have you include within that answer a more detailed statement of the personal opinion of yourself or of the department with regard to how efficient is the present service in commercial pursuits in the country, and what are the causes of inefficiency and what is the weakness of private commercial schools and public commercial schools, and what is needed to enhance the value of the training? I happen to know that Secretary Redfield has some very pronounced views on the subject. We are thinking of our report, and we want to give some consideration to the subject of commercial education, and any contribution of that kind on the part of the bureau would be of distinct advantage to commerce in the country, even from that point of view alone.

Mr. PROSSER. Mr. Baldwin, the commission desires to express its appreciation of your coming here and giving us so patiently so much of your time.

Mr. BALDWIN. Not at all, sir. I am very sorry the Secretary could not come. He wanted very much to come, but this Mexican matter made it impossible.

Mr. PROSSER. The Chair awaits a motion for adjournment of the commission at this time.

On motion, duly seconded, the commission, at 12.35 o'clock p. m., took a recess until 8 o'clock p. m.

FRIDAY, MAY 8, 1914.

SENATE OFFICE BUILDING, *Washington, D. C.*

The commission met at 2 o'clock p. m.

Present: Representatives Hughes and Fess; Mr. Lapp, Miss Nester, Mr. Prosser, and Mr. Winslow; also, Hon. William Cox Redfield, Secretary of Commerce.

Representative FESS (presiding). Secretary Redfield, we have looked forward with pleasure to your coming, and we will now be glad to hear from you.

STATEMENT OF HON. WILLIAM COX REDFIELD, SECRETARY OF THE DEPARTMENT OF COMMERCE.

Mr. PROSSER. The commission will be very much pleased to have the statements of the Secretary take a wider range than that covered by the brief which he has before him. The Secretary has given a great deal of attention to this whole subject. I would like to have him discuss such questions as this, for example: What is his argument for the need of vocational education in this country, and what is his argument for the need of national grants?

Representative FESS. I would like to second your suggestion and give Mr. Redfield an absolutely free field.

Secretary REDFIELD. That is very kind of you, Mr. Chairman. Then, I will take the general subject first, if you approve.

Representative FESS. We should be glad to have you do that.

Secretary REDFIELD. Before the commission assembled I had already said, informally, that I regard this whole question of vocational education, in its wide scope, as being the single, most serious subject affecting American life which is under consideration to-day.

We have done a great deal in this country for the development of academic education, for the purely cultural forms of training, and, of course, we are all glad we have. We have done a great deal for professional training. The man or the woman who would enter a profession finds ample opportunity provided by the States and by private schools, and we are all glad that is so. We have a great public-school system, which we are proud to call universal education, and to which we look to train our youth, in which we have great pride, and with justice, on which we spend, I presume, as much as on any other single subject at least, and we are glad that is so; but we have just come within a few years to the knowledge of a great gap, to the knowledge of a great want. The necessities of life are such, in the keen activities of commerce and industry, that, in our great centers particularly, many, if not most, of our boys and girls find the pressure of the need of a livelihood bearing heavily upon them while still quite young, and this pressure comes upon them when the academic education of the public school is incomplete and the mind is still unformed and, too often, at a pitifully young period of life; and they go out while almost children into what is to them the "blind alley" of life, the cold, hard, practical, sordid, business world, unfit for the competition, trained not even to get a foothold in it, to be in a wholly terrible proportion the victims of the very processes which, if they understood them and were trained in them, should be those by which they should rise in life.

I have in mind a boy, to illustrate what I have been saying, by example of both phases of it. He left the public school at 14 years of age, from the necessity of work to support his parents. What could he do? He had never been taught; there was nobody to teach him. He was willing enough, but quite unable and quite untaught, and the best that was possible for him was to get a position to drive a grocer's cart, which he did for $2.50 a week, accepting that pitiful wage, not sufficient for his own support, much less to help the father and mother, whom he was anxious to assist, merely because he had never been taught to do anything—for no other reason in the world except that—none. This was degrading alike to his own sense of manhood and fearfully injurious to his home. It so happened that a little private organization drew in the boy, and through the kindly assistance of a good workman, who was willing to add at night, without compensation, to the labors of a busy day in the shop, that boy was taught to learn the rudiments of electricity. At the end of two years that boy was earning $25 a week as the electrician of a large moving-picture concern. I have had that before me constantly as an example of what industrial training may do for a boy and what the absence of it will do for a boy.

Shall we turn our children out to-day into the busy world untaught? Let us think, if you please, of the household of a mechanic. The father picked up his trade, not by being taught it, for he had no one to teach him; he went into the shop and he learned a bit from this man and a little bit from that man; he was watched by his foreman, who found fault with him when he went wrong, and he learned from these mistakes, little by little, by a painful operation which I call "attrition;" that is, literally rubbing the knowledge off from other men. Through painful years of small wage and poor product, injurious to himself and hurtful to his employers, he grew up to be a mechanic, and he married a wife, who was a working girl and who had never anybody to teach her anything; but through the force of her strong womanly character she managed to escape the dangers that are strewn in the very path of every young woman who would seek self-support, but who knows not how to work at some definite task. Their children are coming up now, and the father and the mother desire for them things different from what they had. The father hopes his boy may learn the "why" as well as the "what," but he does not know where to send him to learn it. He does not want his boy's young manhood wasted in the picking up of odd ends of knowledge here and there and a waste of his time and a waste of employer's time; and the mother, knowing the dangers she escaped, does not want her girl to go out and take the $2.50 or $3 as a cash girl in some store, or the $4 or even $5 of a so-called sales person, and to be subjected to the conditions out of which arise the struggle for decency and purity, the success of which is such a glory to our American young womanhood. One of the greatest glories of America is the sweetness of character of her poor, untaught, and tempted girls. That is one of the great things. We will put that thought in the record.

But the father and the mother have no means now of providing these things for their children, or but little means; and until we provide them, until we take that boy at 14 or the girl at about the same age,

and while perhaps they are able to do something at self-support, we continuously teach them in the art and the knowledge of self-support; until, I say, we do that, we are still going to spread our social path full of rocks and bring up the horde of incompetents, that I sometimes think dishonor the fine name of workman.

Now, on the factory side, it would be a God-send when an employer can employ men who know how to work, who know why they work that way, and know what to do and why it is done. To-day they often can not.

Another of the pitiful sights of this country is the stream of people that flow into the cheap employments in industry and out of them, because they have been tried in the balance of even that kind of work and found wanting.

Take our great textile mills of New England, where for less than 20,000 places in the great factories they may employ in a single year 40,000 or 50,000 persons, the excess representing in large part human failures.

There is hardly a factory in this country where this problem of the untaught men and the willing but untrained men is not a curse, and it works all sorts of harm. It works the hurt in the untaught young man's mind of his own self-respect, because he knows he does not know, and suffers because he knows that he does not know. He is willing to work and work well, but does not know how, and is ashamed of himself perhaps because he does not know how. It is degrading to the manly self-respect of a fellow who could take an honest pride in good work if he knew how to do it. He can not help it, but he suffers just the same. It is hard on the foreman and superintendent, and accounts for a whole lot of abuse from worried and fretted men, which would never happen if they were working with a trained force. Imagine an officer in battle with men who did not know how to shoot a rifle, and you have a condition that prevails to too large an extent in almost every factory. I do not exaggerate it; I have been through it.

Mr. WINSLOW. It is all true, Mr. Secretary.

Secretary REDFIELD. It is a sad spectacle; it is sad from the employer's side, but that is the least of it. It is sad for the fellows who go home at night to homes that they would like to help, because, in the first place, they can not help them as they want, and because, in the second place, they have suffered in their own self-respect all day long; that is a very serious trouble. I do not know, Mr. Chairman, of any one thing that will do so much for American life as to have the day come in this country when in each one of our great States every boy and girl in it shall come to know how to do some one simple act of self-support thoroughly well. It seems to me as if the social and industrial millennium would come all at once if we could take the population of any town and say, "Every boy and girl in this town knows how to do some simple kind of work well—thoroughly well."

So that from every side this subject is important; from the side of labor, increasing the certitude of its own position, giving it a dignity that it realizes itself in its untaught stages it has not and can not have, giving to it an authority which would make it win even more than it has now the respect of capital, for quality is always respected.

The present want hangs as a burden over our industrial efficiency, and accounts for a whole lot of human wreckage.

I do not think I could say any more if I talked a month, Mr. Chairman.

It is a terrible problem in its size, in its bulk. The hopefulness of it is that the intelligence and consciousness of the country is aroused to it. I am not here to advocate any theory of vocational and industrial education. I am trying to speak of the need of it and of the necessity for all of us who love our kind to get that thing emphasized and recognized by the powers that we create and do what in God's name we may to straighten it out. It is not a thing we shall accomplish in a year, or in 10 years, but we can get a start; we can pull the throttle and get the thing moving. And I look with a great hope to your work here, Mr. Chairman, as supplementing the work of good men and women who have gone before you and as leading to the work of good men and women who are to follow after you, as being one of the great stones in a beautiful structure, something we shall like to look at some day as "one of those things which I did."

So, I hope that your view of industrial and vocational education may be as large as the subject, as infinitely broad as the extent of the human need, and that it may be as united as the need is intense and as infinitely various as the variety of the need itself is also.

The very extent of the problem is the cause and the justification for Federal aid in dealing with it. It is too overwhelming to be handled by anything less than the power of us all; it is too pressing in time to be dealt with save by the largest forces we have available. We can not permit this thing to drag along 20 years, while individuals and organizations and States are dealing with it here, there, and yonder. It costs too much; the human lives are too precious; the production of those human lives at their best is too mu h needed by the social body to make it economically sound reasoning to take any course short of the quickest that we know, and can with intelligence use. It has come upon us almost, you might say, like a bolt out of a clear sky; I mean not the need, but the realization of the need. Those who have had the most intimate touch with labor in its phases are, I think, almost stunned by the weight of the problem as they have visualized it, and I think they have come to feel it now with an intensity of keenness more than any other part of the community.

So that my feeling as an officer of the United States toward this thing would be that this is not one of those things which the Government may assist, but which in all honor and security it must assist; which grows too deep and spreads too broadly to be dealt with other than by the greatest power we have.

We do not dare to wait, it seems to me, at as great a loss of time as we have taken in our academic education, to create the system which shall provide for this education of the brain and hand for toil. It is not conceivable that we can let the matter rest as long as that would require. So it seems to me we must, for safety's sake, for humanity's sake, stimulate by our governmental assistance the action of those other governments which form the great Republic, and coordinate all—the Nation and the State and the city—and provide an organization to deal with one of the most pressing and difficult of our social problems. That is the way the general subject appeals to me.

Representative FESS. It would not interrupt for us to ask questions?

Secretary REDFIELD. Not a bit.

Representative FESS. Relative to the example you gave a moment ago of the boy who became an electrician, how general would that illustration operate, do you think; in other words, if every boy could have that training, how many of them would be able to show the advantage in employment under our present system of industrial life?

Secretary REDFIELD. I think a great many. I think, in the first place, that almost every one of us has got some kind of an aptitude, which would make us more productive and more useful alike to ourselves and the communtiy if it were developed, and that the world is full of stunted and distorted people, whose aptitudes have gone untouched, and that one of the results of vocational and industrial training would be to give the normal tendency to life, to set it running along the rails on which it would normally move, instead of making it go along over the thorny path of necessity. At present the poor young man and woman has no choice in the matter. Very largely it is a matter of bread, and it would set our young humanity free if their ability to earn could be cultivated along the line of their greatest aptitude.

Representative FESS. You think that is within the probability of a training?

Secretary REDFIELD. I do. Oh, I do. I think that is undoubtedly within the possibility of training; just as it proceeds in a certain way from our academic training now; there must be a natural process of selection to a greater or less extent by which young people develop into the lines of the law or medicine, or the church, or into sciences or into pedagogy—whatever it is—and I think just as truly there should be provision made, and would be made as a matter of course, in any system of vocational training for the development of those aptitudes—unquestionably so.

Representative FESS. That would not mean that everybody who had a training would necessarily succeed in that, would it?

Secretary REDFIELD. Not at all. We are offering no panacea for all the sins of humanity. No; we are making good work a great want, but one can never say that human frailty and weakness would be removed by the process of training the hand and brain, any more than it can be removed by the training process of our colleges and technical schools. Oh, no; we are not offering here a remedy for all the ills of life. Some work will still remain for our grandchildren to deal with, Mr. Chairman.

Representative FESS. Mr. Secretary, assuming, as we all do, the need of this training, I think we are pretty generally agreed also that probably the States will not do it as the need would demand. Do you see any substantial difficulty in the Federal Government participating with the State? Is there any probable controversy in Federal relations that will complicate the problem?

Secretary REDFIELD. I see none that of necessity need complicate it. I assume there are many people not informed, as many people are unconscious now of this great need, that may raise questions which will have to be answered. I should, I think, make your own statement even more strong. I should say not only is it probable that the

States will not do this, but it is morally certain the States could not do it; that the problem is too vast, the pressure of it is too great to make it possible for the State to do it, and that Federal aid is not so much a thing desirable as a thing necessary, a thing essential. To my thought it would not at all be the problem of the Federal Government undertaking the task, but that the Federal Government should act as coordinator and stimulant in the task and bring to bear upon it the weight alike of its approval and its authority, the stimulus of its direct contributions to the work, in proportion as those are shared in by others; and, in short, act, I might say, as a general coordinator of the whole and make it nation-wide in its scope, and I should suppose also set standards of performance to a certain degree. I recognize, Mr. Chairman, that whatever is done must be an evolution. We probably shall none of us be able at the very beginning to say that this is the final word on this matter, but that there will come with the very development of this kind of education improved methods, improved ideals, which time and time alone will show.

Representative FESS. Have you any clearly defined view as to how the Federal Government should apply this aid? Should it go to schools already established or to the establishment of schools, or to the assistance of teachers, or what should we do?

Secretary REDFIELD. Why not to all? Again, it seems to me, that that is a question of the visualizing of the problem in its largeness. If it is a little problem, we can afford to deal with it in a little way; if it is not a pressing problem we can afford to be very particular, perhaps, about this or that or the other method, and study it very carefully; but if, as I imagine it to be, this thing is one pressing hard now upon our minds and consciences and affecting our homes adversely all over the land—if that is true, then I should say that the old doctrine of the scripture was a pretty good one that "this should be done and the other not be left undone." Here is the place not to turn aside from anything that will build this problem up; and therefore it seems to me there is room in it for men of all sorts, so that if my friend wants to take line A B, I say, "God bless him; it is a good line. If line C D seems to be the one for me to take, all right, you bless me; if E F is the line another one wants to take, all right. Now, go on and work them out in your own mind and thought." The problem is too elevated in its purpose and scope for any differences of opinion as regards individual lines of work to even mitigate our admiration for each other as we each do our separate jobs. We all ought to pull this thing off together. We may not be able to pull right in the same harness, but after all it is one job and along uphill roads. The attitude of getting the thing done in the broadest way is the supreme need. So that in one State its organization might lead one way and in another State its condition might lead in a very different way, and you find that organized labor would in one place feel this was its need, and in another it would feel a different need. Both ways are good; let them both be done.

Here is a great factory that wants to work out its individual problems. All right, let it do it. I think it is a thing of avoiding antagonisms, so long as the spirit and the purpose is true.

Representative FESS. Would you have any trouble to find a law to give that latitude?

Secretary REDFIELD. When it comes to framing enactments, my friend Congressman Hughes knows a lot more than I do, and you do, too, Mr. Chairman. I think it is rather easier to find a law giving general latitude than it is giving definite particulars.

Representative FESS. Mr. Secretary, there are two classes of boys, as I understand it, that will want this vocational education. One is the boy who has never entered on the field of trade. That boy has selected his calling and he wishes to enter that school for the purpose of equipping himself for his chosen profession or occupation. The other boy is the boy who has worked in the shop and he has seen his deficiencies, and therefore he desires to perfect them. The question is, how will we arrange for both of those boys? What kind of a school could we establish that would meet those two cases?

Secretary REDFIELD. The second boy is a case for continuation school. He is a boy who wants to be permitted to work in the shop, while at the same time he is taught in the schools. He wants to be given time out of the shop in the school and paid just as much while he is in the school as he is while he is in the shop, because it is just as much to his employer's profit to have him there as it is to have him in the shop untrained; a continuation school, where the reason why he is taught side by side with the thing what, is what the second boy needs. The first boy needs an entirely different kind of a school. He needs what we call—what is the technical name?

Mr. PROSSER. What we have been calling an "all-day" school, because the pupil gives all his time to it.

Secretary REDFIELD. Yes, he needs the fundamental processes, the primary processes, the kindergarten processes he needs to know, and he will go through those kindergarten or primary processes in an all-day school up to the time where he, too, will get into the shop to work, and where he, too, may want a continuation school to go on. Out of that process, if it is applied with care, I think you ought to add 10 years to the earning life of a mechanic. I think you ought to put a boy of 20 years where he can earn as much on the average as he can now earn at 30; I think that is one of the great things that has an enormous social effect. Consider its effect socially. Suppose we do put a young fellow at 21 to earning with reasonable certitude a man's wage. When that fellow is 25 or 26, he is in position to marry and get his own home, with all that that implies for the community in the development of homes. But let that fellow be wrestling his way through the present helpless, shiftless method, or lack of method, that now exists in the factory, and I have seen many a young fellow who at 29 or 30 was not able, from pressure of poverty or circumstance or the need of filling his mouth with food, to have been taught even by 30 years of age so that he could command a first-class mechanic's wage. You have seen such young men, Mr. Winslow?

Mr. WINSLOW. I have.

Secretary REDFIELD. And that fellow can not marry at 30 years of age?

Mr. WINSLOW. He does not have a chance.

Secretary REDFIELD. He does not have a chance, and that is why I say this subject, Mr. Chairman, is so broad in its scope and its social effects. It opens the door to home making four or five years,

at least, earlier in a mechanic's life. You take a home in this country where the father knows he can support it—because good mechanics are always wanted; even in tough times factories compete for really good men—and where the wife knows she can take care of herself, too, because she has been trained to do it, you have started that home on a foundation so secure and firm that self-respect is going to abide there, and the wolf keep away from the front piazza. You will pardon my enthusiasm on the subject, Mr. Chairman.

Representative HUGHES. We are glad to hear it.

Representative FESS. It is very acceptable.

Mr. WINSLOW. It is also true, Mr. Secretary, that the good mechanic always likes to shake hands with another good mechanic?

Secretary REDFIELD. Surely he does; that is the great fellowship of good workmen, which is the largest of clubs.

Mr. WINSLOW. Mr. Secretary, I want you, in answer to the question that the chairman asked of you just now, to read this, if you kindly will. I thought you would be interested in this reply to a telegram to Frank Thomas, of the Santa Fe Railroad, whom you know.

Secretary REDFIELD (after reading letter). That is in the right line. I visited two of their schools while I was in the West, and they are admirable.

Representative HUGHES. What I have heard of the Secretary, he has answered all questions before they have been asked him.

Mr. WINSLOW. I thought Mr. Redfield would like to read it.

Secretary REDFIELD. I would like to speak to the questions on this sheet when you are ready.

Representative FESS. We would be glad to hear you now.

Secretary REDFIELD. In response to question 1, asking what evidence the Department of Commerce has as to there being urgent need for commercial education in this country of a type not now being given extensively, I hardly know that I can say that the Department of Commerce has in its files what would be called direct evidence upon this point. The department deals, under its present appropriations, almost exclusively with the development of foreign commerce. I know that there appears constantly the need for a very much more largely extended and more practical form of commercial education than now exists. It is a favorite hobby of mine, which I think you should discount properly, that I have never been able to employ young men or young women with an ordinary working knowledge of geography. I have had experiences in that connection which would be humorous if they were not pitiful, and while that might seem perhaps trivial, yet the fact is that single thing has held down, to my personal knowledge, many a boy from an advancement in life which would have come to him, and girls, too, if they knew more about it. While there may be commercial schools in this country which are teaching a working knowledge of the world's geography, I do not at present know where to go to find them. It is rather embarrassing to have a clerk tell you that Jamaica is an island in the Pacific Ocean, and yet that was told me in my own office.

I have said elsewhere that I know of a Boston business house that wrote a letter to Manila on the 8th of June and then wrote again right indignantly the 25th of June, complaining because they had not received a reply. It was also a Boston concern that referred an

inquiry from Panama to an agent at Manila. And tales of that kind could be multiplied indefinitely.

Mr. WINSLOW. Go right on, Mr. Secretary; we are from Boston.

Secretary REDFIELD. In response to the question as to what extent the Department of Commerce is now assisting States and local communities by furnishing information as to the need of commercial education or the facts to be used in connection with it, I may say the department is doing nothing. We have not the authority to do it, nor the appropriation for the purpose. We are emphasizing in our publications the need of training for trades, training for commerce, and especially as to the need of it in connection with foreign commerce, which is our specialty. In that sense also we may be said to be taking steps in a very modest way to promote commercial education in this country. We have no direct authority of law to do this, except in the most indirect and incidental way.

Mr. PROSSER. Suppose you should gather as a by-product of other studies information which you thought would be of value for commercial education in the country. Have you authority at the present time to publish such information in a bulletin?

Secretary REDFIELD. Yes; we do. We publish our Daily Consular and Trade Reports, which are circulated quite freely to commercial schools. They are regularly received by a considerable number of schools of commerce, and in that way afford, so far as the consular reports make it possible to afford, something of a vision of foreign commercial life. They contain, at more or less distant intervals, reports from the consuls on commercial education. Now and then a consul will send us in a report which is valuable and which finds its way at once into this publication, and I think, but I am not sure, that we have once or twice published separately such a report.

Mr. WINSLOW. Yes, you have. We have copies of them, and copies of all your consular and trade reports, which have some very interesting matters on commercial and industrial and trade schools.

Secretary REDFIELD. Yes. We have taken the position now, that commencing with the 1st of July we shall furnish that publication for subscription, through the superintendent of documents, at $2.50 a year, because we have been quite unable with an edition of 20,000 a day to satisfy the commercial demands upon us.

I can speak from my own experience of something over 43 years in commercial life, on this general subject with a little more freedom than I can as Secretary of Commerce.

There is existing in this country a similar need, not so great need as for industrial training, a need which is not so great and is better met, for commercial education. There have been commercial schools established in many, many places for a great many years. It is not one of the points which needs major emphasis in this connection. The need is far greater for the training of the mechanic than it is for the training of the office clerk, and the office clerk can get better means of training for the lesser need than the mechanic can for his greater want. Every city has had private and now public commercial schools, varying very much in quality. I had commercial courses when I was a boy in a high school which cost me something to forget, but they have improved a good deal in recent years, and in our large cities I think there is a fairly adequate meeting of the commercial need purely. In my own home city we have a very fine

commercial high school, and I have every reason to think that its standards are reasonably well advanced.

In speaking of the commercial training I have in mind the office man, and I think he has a far better chance to-day than the fellow outside in the shop, who needs it a lot more; and very frankly, I should not want to go on record that there was any very large need for Federal aid to commercial education. I think there is a crying need for vocational and industrial education generally.

Attached hereto is a memorandum giving by way of postscript—I refer to section 4—some of the kinds of information needed in the promotion of the commercial education in this country, and the question is asked whether the department is at present collecting any of this information. It is not; it has not the means to do so.

Mr. PROSSER. I was interested in what you said a moment ago, Mr. Secretary, with reference to the authority of your department under the law to deal with this matter of commercial education. Suppose that it should be thought necessary by your department to measure the efficiency of commercial service in this country, partly in order to determine whether the commercial training given in the training schools was well given. Is that a thing you could do under the law at the present time?

Secretary REDFIELD. No, I think we could not do it under the law; that is; we have no authority to expend, under the law, an appropriation for that purpose, no appropriation which would cover that scope. It is a question which in part may be answered in taking up section 5, Mr. Prosser; whether it is the opinion of the department that the collecting of this kind of information is a legitimate part of its duties. It is not a legitimate part now, but it might well become so.

Mr. PROSSER. Do you feel it ought to become so?

Secretary REDFIELD. That is the question which I should want to consider with a great deal of care. The Department of Commerce is not looking for more jobs. It is a great deal more concerned to do well the jobs it now has. Nor have we any desire, not the faintest desire, to do the work which belongs to anybody else. The Bureau of Education, I think, does nothing in the line of commercial education, but I know of no reason why it should not do so, and my first thought would be that it would be better to build on a foundation which already exists, rather than to establish a new one.

Mr. PROSSER. I think we all recognize the fact that there is a large field of service for vocational training by the Bureau of Education. We have a peculiar situation confronting us, where there are three great departments of the Government deeply interested in and highly skilled in securing information in three great fields of employment in this country: The Department of Agriculture, the Department of Labor, and the Department of Commerce. They have expert agents constantly at work gathering data of all kinds. These have gained the confidence of the people with whom they deal in this field of service. Where the line of demarcation should be drawn between the work of the Bureau of Education, gathering information for purposes of vocational training, and the work of these other departments gathering information of value on determining the content and the method of the training in the public schools, is the thing that bothers. Where would the work of the Bureau of Education leave off in dealing with preparation for a vocation, and where would the work of

the departments begin in gathering information as to what should be the character of the training given?

Secretary REDFIELD. You might conceivably arrange that the Bureau of Education should have to do with the promotion of education, whereas it would be feasible, I think, for the Department of Commerce, in its Bureau of Foreign and Domestic Commerce, if it had an appropriation of a modest amount—a large amount would not be needed—to learn what the actual condition of commercial education was and turn it over to the department concerned with its promotion; that is to say, if we had in the department three or four good men who had nothing else to do but develop the actual facts of commercial education, after a year or two we could get a very good picture, and that we could keep it under constant supervision.

Mr. WINSLOW. You do now get, Mr. Secretary, a very considerable amount of by-product?

Secretary REDFIELD. Yes; we do.

Mr. WINSLOW. For example, Mr. Sheridan often says to me, "Winslow, I have got a lot of material that belongs to you." Mr. Palmer says, "Winslow, that is your job. I do not know what to do with this stuff. You ought to have it."

Secretary REDFIELD. Our special agents engaged in the investigation of the cost of production develop a large lot of facts of that kind, which we can not utilize at present. We could turn them over to a body whose duty it would be to promote education, and we have not at all the organization for the latter work. We have means of getting information concerning it, and if we had the men I speak of we could get it very thoroughly. For instance, if it were assumed that the Bureau of Education, properly placed in the Department of the Interior, were the promoting end of the work, we could turn over to it constantly facts from our examiners, and especially if we have several men we could make this a matter of special service, very illuminating material, and make their work far more efficient than I imagine it now is or can be. I do not wish to be understood as criticizing them at all, and we should be very willing to undertake it, and the expense would be very small. As far as that is concerned, I think $25,000 a year would cover it very handsomely.

Mr. PROSSER. Mr. Secretary, you spoke in the early part of your statement about the National Government serving as a coordinator and stimulant for vocational education in the States. That would be in keeping, would it not, with the trend of national legislation along many lines in the last decade?

Secretary REDFIELD. Oh, yes.

Mr. PROSSER. Take it during the last 10 years?

Secretary REDFIELD. Yes.

Mr. PROSSER. Would you care to enlarge on that statement? I ask the question because we are interested in it for the purpose of our report.

Secretary REDFIELD. It takes a great many forms—perhaps more forms than are commonly thought of. The National Government is acting to-day, for example, as a coordinator and standard maker for all the State troops of the United States, as well as for the students in the private military academies in the United States, a fact of coordination which, I think, is not commonly realized. There are various State universities with military work maintained by such

funds. In your own State of Ohio, Mr. Fess, there is one where the Government furnishes not only arms but the services of a trained officer to conduct the education in military matters, and sets the standard for that education, and that is the case with a number of the State universities.

Mr. WINSLOW. They do that in the M. I. T.—the Massachusetts Institute of Technology.

Representative HUGHES. That is the case at the State University of Georgia.

Secretary REDFIELD. Yes; I think I was told the other day there were 6,000 young students in this country under the direct personal training of Army officers, by which means the Government is now rendering aid to the military education—that is, Federal aid to military education—without any further question. We are doing that, and it is a very efficient method. I thought the testimony of the president of the Ohio State University was good, and on this point I thought myself it was admirable.. It is a very useful and a very powerful and stimulating and controlling factor in that particular type of education. The same thing is true, of course, in a different way and on a much larger scale with agricultural education, to which I am very glad to say the Government has made in the past large awards, and is continuing to make large awards, and with very admirable and very laudable results. I hope they may be long continued.

It has seemed to me a perfectly normal development out of these two that the Government undertake aid to what is a far more serious problem than either as we face it to-day.

Mr. PROSSER. Is there not an analogy between this effort and such activities of the National Government in the past as the making of good roads with Federal grants, the attempts to cooperate with the States in safeguarding the flood districts along the Mississippi River, and matters of that kind? What I am seeking is to get into the record the analogy between this proposal of National grants and a lot of other things that the National Government has done in fields not connected with education.

Secretary REDFIELD. The analogy is real, in my judgment, between the furnishing of several aids to these purely physical problems, and by so much the greater than they as the human problem is greater than the physical.

Mr. PROSSER. What I have in mind is this, Mr. Redfield: The National Government, for instance, is about to put a certain amount of money into road making in the States; it is acting there as coordinator and stimulator for that purpose, gives a certain amount of money, expects the States to give a certain other amount of money, and requires that there shall be a minimum of standards in the construction of the road into which the Federal money goes. Have we not had a great deal of legislation of that kind in the last 20 years?

Secretary REDFIELD. The tendency has been, of course, to a very much larger development of national guidance in all those matters in the last 20 years. There is no question about that fact, and, if I may be pardoned for saying it, I have felt that the subject matter with which we are dealing has been one of those vital things which has been quite too much passed by in the great desire for things

which are more obvious but not so serious. I think we have done quite a little in the outreach of the Federal power along the lines you suggest towards matters which are relatively superficial; whereas here we are dealing with a matter which is the very heart of our body politic, which goes into the very structure of our social order.

It would not be very much use, you know, to have Federal aid to good roads and have Federal aids to this and that and the other physical problems, if you have got a whole lot of untrained workmen and workwomen to carry in life; whereas if you get our great human force trained and operating along educated lines, all these other things will grow out of it in a normal manner, and therefore my argument from what you suggest, Mr. Prosser is a fortiori. By so much the more as the human value is greater and infinitely more than the physical should we care for it. We are training the farmer's boy—God bless him—and training the young university student in the military art—God bless him, too—now we have to take the mechanic's boy; we can not let him go; he is too valuable to us, and we have got to take his sister with him; we can not say, "We will do this for the fellow behind the plow and we will do this for the fellow who carries the gun, but the chap at the lathe and the the girl at the sewing machine we can leave them out." That is wrong, especially when the need is crying, and when this need exists under circumstances of congestion which makes it peculiarly oppressing.

I have often thought, in that connection, that the farmer's boy has the glorious advantage of fresh air; he is out in God's open country, while the mechanic's boy may have to live in an attic, unless you can train him so that he can earn money enough to pay rent for a more respectable place; and he is the fellow who cries out in this country now; he is the chap we are not looking after.

Representative FESS. Aside from using, what we have already done, such as Federal aid to good roads, and other movements like that, what other argument would you offer to the claim that will be made that education is a matter that pertains purely to the States and that the Federal Government should have nothing to do with it?

Secretary REDFIELD. I would argue, if that was the case, the House of Representatives ought to repeal certain clauses in the agricultural appropriation act and should cancel at once the military academy bill, or, if that was thought going too far, should withdraw its Army officers from the training of boys in private schools. The moment you make a proposition like that men would rise in righteous and entirely sound protest and say, "Why, no; agriculture lies at the very basis of our national existence, its food supply, and we do wisely and well to train our boys in the study of a problem which is of such universal scope, and the training of these boys in these military academies at public expense is a part of the contribution toward the national defense," and both of those are sound arguments and they have led to wise practice. That is our custom now. We are doing that thing and we recognize that to be right. And my argument would be, as I said before, by so much the more, therefore—not as a matter of apology, but as a matter of even greater obligation—we can not let the boy in the city and boy in the mill and the girl in the shop go. The need for them is quite as great.

Now, if education be purely a matter of the State and of the city, if that is so, then there is no excuse for continuing our agricultural and our military policy; that you ought to cut right off. To state the fact, I think, is to show its own conclusion.

Then, again, there is another element. I would not have any hesitancy, Mr. Chairman, in approaching the problem if there were not these precedents which already exist, merely on the ground of its essential public importance. It simply must be done. Here is a crying problem, too big for State and city to handle alone, and, furthermore, there is the question of coordinating it into the lines which will not make it conflicting. If Massachusetts starts up one type of education industrially, and Ohio and Pennsylvania a second and third, and the boys wandered, as they must needs do, with varying employment, from one State to another, you are going to get your education into all sorts of conflicts for lack of a coordinating force. You would have a Pennsylvania type of mechanic and a New York type of mechanic, and a man coming into your shop and using a lathe in an Arizona way or running a drill press according to Georgia methods, which would all be very absurd and about as embarrassing as the present lack of education, not that the Georgia way would not be a good way, probably better than the New York way, but it would not gibe just the same on the same job.

Representative HUGHES. There would be no uniformity.

Secretary REDFIELD. No uniformity, so that you would have to have—you have got to have—something in the nature of a coordinating force, precisely for the same reason that Congress has adopted the militia bill coordinating all the volunteer forces of all the States into the same tactics and arms and equipment as the national Army.

Mr. PROSSER. When you use the expression "coordinating force," Mr. Secretary, you have in mind, for the most part, such a coordinating and standardizing as would come rather from volunteer conference work between the States and the national authorities?

Secretary REDFIELD. Oh, yes; we are not thinking for the moment of using the military figure or imposing a military ideal at all, nor are we necessarily thinking that the schools must be coordinated to the extent that the military force is, in the degree that they have the same buttons. That would be carrying our process, again, too far. "It is the spirit that maketh alive," and we want to avoid the "letter that killeth," Mr. Chairman.

Representative FESS. We can anticipate the style of adverse argument that will be offered to any recommendation that we make by referring to the character of the argument against the appointment of this commission.

Secretary REDFIELD. Yes.

Representative FESS. Some of our leaders, whose very announcement carries great weight on the floor, insisted that this was purely a State matter and had not any place in the House at all, and we have got to expect that again.

Secretary REDFIELD. Oh, you must expect that. You have got to overcome that, and that will not be a matter easily done. It will take time. I always reckon, in a matter of that sort, Mr. Chairman, that you have got to have not only so many units of proof and so many units of brains, but you have got to have so many units of time to do it in.

Representative FESS. There will be an argument, also, against uniformities throughout the country in matters of education.

Secretary REDFIELD. Yes; and if by uniformity one means rigidity, there ought to be an argument against it; and that is why I said that we can not argue in details from the military organization—no, no. The type of education that the Southeast needs will not be the same in substance and form that the Northwest will require; and the setting of standards and the work, of course, must be with the understanding that those will be flexible standards.

Mr. PROSSER. We accept it as impossible that any Federal statute can describe or define any plan of vocational education which would meet the needs of all the States. There must be only one other recourse, and that is to leave the matter for conference and adjustment between a State board for vocational education and a national board for vocational education, the two working together.

Secretary REDFIELD. Yes; there certainly should be, one would think, some body representative of the will of Congress in the matter, which has the function of deciding as to what the standards should be and whether those standards were met by certain conditions.

Mr. PROSSER. In such a case the Federal authority will, of course, find it necessary to take into consideration the existing and differing conditions within the various States themselves. In other words, that standard need not be absolutely set standard for every State, but it might vary according to the varying conditions of the States themselves.

Secretary REDFIELD. It would have to vary according to their conditions. An industrial school in southern California might take the form, for example, of training in the growing of citrus fruits, a matter that is greatly needed there, it being their great industry. It, however, would not be managed in precisely the same method as a training school in Massachusetts, where they are teaching weavers and spinners. You would have to have your system as flexible as the needs of the several States, and that would be a point in which, Mr. Chairman, objection can be met in advance by care in the statement in your report, which should be made plain that the problem of Federal aid does not involve the imposing of authority from above of an arbitrary and rigid system.

Mr. PROSSER. We could not get anything of that sort at all.

Secretary REDFIELD. You could not get any support for that, and you ought not to get it.

Mr. PROSSER. No.

Secretary REDFIELD. But if it did need the supervision of a considerate, helpful body, with authority to adjust the nature of its supervision to the needs of each community, why, then, you would disarm that, and the need of disarming that criticism is extremely real, because you might have your agricultural States up in arms—and properly so, if they misunderstood—against your industrial States, on the ground that they were left out; whereas the supervision should be broad enough to cover the industries of any State. I do not mean by that that you would trespass upon the work of the Agricultural Department, because that is not necessary.

There are certain questions on this Exhibit A. I do not know whether they would be of interest. In answer to the question, How efficient is the present service in commercial pursuits in this

country? I should say that is very hard to answer categorically; very hard. I should put it at pretty good. In a great city like New York, Chicago, Boston, Philadelphia, Cleveland, Cincinnati, St. Louis, you would find a very reasonably high grade of service. In any great commercial city like New Orleans, Galveston, Atlanta, or Birmingham, you would find reasonably good service in commercial pursuits; in the small places, of a rather poorer character. The causes of inefficiency are very largely lack of thorough training, although in this particular direction there is more training available than in other lines.

The weakness, if any, of the private commercial schools and business colleges is the lack of practicality. If there could be a commercial continuation school, it would alter the whole tone of those things. That has very much improved in recent years.

I think it is a fact that in some of our large cities that need is adequately met to-day. The weakness of the public commercial schools may be answered in the same way. I think that our best commercial high schools are doing very good work. As a matter of fact, I know their graduates go right out into employment, often at good wages.

What is needed to enhance the value of the training now given in both private and public commercial schools? Its practical character needs to be enhanced, and the one element which is an essential part of all training, namely, to teach the mind to know why it knows, and to use what it does know. I always think of the remark of a clever engineer I once was examining when I was in Congress, who said, "If I do not know why I know what I think I know, then I want to know." It shows the ideal.

I do not think it is necessary to enter into any such scheme as large as suggested in item 6. It would require a very much larger expenditure than is at present in sight; it means practically taking in charge both the promotion of commercial training and the direction of it, the distribution of the results of it, which would be a pretty large matter.

Mr. PROSSER. Which of those questions, Mr. Secretary, are of that type?

Secretary REDFIELD. Well, to enter into the question A of supply and demand for trained commercial workers would involve a pretty serious amount of work on the part of the Department of Commerce. To provide for the question of distribution would be a very serious matter. In fact, this whole outline, questions A to E, inclusive, would be really such as to require a separate bureau—a bureau of commercial education.

Mr. PROSSER. Would it be worth doing?

Secretary REDFIELD. Not now.

Mr. PROSSER. Is it a thing that could be handled progressively?

Secretary REDFIELD. I think it might be begun.

Mr. WINSLOW. That is why you suggest the appropriation that you have suggested?

Secretary REDFIELD. That would at least be a useful thing in itself, and would lead the way. I should not be prepared to recommend even if Congress wanted to furnish it, the establishment of a bureau now of commercial education. I think the matter is already too far advanced to make it as desirable in that line as it is in others. In other words, I think there is not the need for new courses in com-

mercial education that there is in mechanical and other vocational education. It is not so far advanced as medical education or legal education, which is very much further advanced than the other kinds.

That same thing is true of question F. That could all be made the work of a separate bureau of commercial education, but it is a big job and would mean the expenditure of a large amount of money, and one which, as things are, I should feel was diverting funds from where they were more seriously needed.

Mr. WINSLOW. Do you think, Mr. Redfield, that if a matter of that kind were undertaken that it could be taken up one line at a time?

Secretary REDFIELD. Yes.

Mr. WINSLOW. One class of workers at a time?

Secretary REDFIELD. Yes.

Mr. WINSLOW. For instance, stenographers and typewters, clerks, and accountants?

Secretary REDFIELD. Yes; it would have to be. It is just as in the Children's Bureau; you can not establish it full grown all at once, but it will grow and grow, and you will come along and get an appropriation after a while when you do not expect it, even if the committee turns it down. [Laughter.]

I do not see that I can say any more. I have had pleasure in being with you.

Mr. WINSLOW. We feel honored in having you.

Representative HUGHES. We have been honored and highly instructed, too.

Secretary REDFIELD. I thank you very much.

(Thereupon at 3.30 o'clock p. m., the commission stood adjourned to meet at the call of the chairman.)

TUESDAY, APRIL 21, 1914.

SENATE OFFICE BUILDING, *Washington, D. C.*

The commission met at 10 o'clock a. m.

Present: Senator PAGE (acting chairman), Representative FESS, Representative HUGHES, Mr. WINSLOW, Mr. LAPP, Miss MARSHALL, and Miss NESTOR; also present from the Department of Agriculture: Dr. TRUE, Mr. LANE, and Mr. LANGWORTHY.

STATEMENT OF DR. A. C. TRUE, DIRECTOR OF THE OFFICE OF EXPERIMENT STATIONS, DEPARTMENT OF AGRICULTURE.

Senator PAGE. Doctor, will you give your full name and your official designation?

Dr. TRUE. A. C. True; Director of the Office of Experiment Stations, Department of Agriculture.

Senator PAGE. Dr. True, you have received this statement from the commission in regard to the information which they desire from you, I suppose?

Dr. TRUE. Yes, sir.

Senator PAGE. Are you prepared to proceed now?

Dr. TRUE. Yes, sir. I am here this morning representing the Secretary of Agriculture, at his request. I have brought with me the answers to the questions submitted to the department by the commission, which the Secretary has approved; also the letter of transmittal from the Secretary to the chairman of the Commission on Vocational Education.

Senator PAGE. Those will be made a part of the record. These are supposed to be direct answers responsive to these questions?

Dr. TRUE. Yes, sir; these are responsive to the questions. If the commission desires, I will read this or answer questions as we go along, just as you choose.

Senator PAGE. Perhaps you had better do that.

Dr. TRUE. The first question is as to the extent and ways in which the Department of Agriculture is encouraging agricultural education through schools of secondary grade.

In reply to that, the department has in its Office of Experiment Stations a small division which promotes the establishment of courses in agriculture in secondary schools, and gives information to such schools through personal conferences, correspondence, and publications. This advice relates to the subject matter of instruction in agriculture, courses of study, textbooks, and other literature, equipment and other matters relating to the teaching of agriculture. This office, being in close touch with agricultural colleges and schools throughout the country, is often able to give information regarding teachers of agriculture available for secondary schools.

Senator PAGE. If it will not interrupt you too much—these replies suggest questions which I would like to have go into the record as you go along. One of the great questions which has confronted us is this, Are we going to be able to secure teachers to go on with the general educational work contemplated by the vocational-education bill? To what extent do you think the State agricultural colleges provide teachers of the higher class required for this work?

Dr. TRUE. The supply of teachers of agriculture for the secondary schools is now inadequate, but the number of properly qualified persons is increasing. The establishment of quite a number of secondary schools in which agriculture is taught, and the large number of schools, such as the public high schools, in which some agriculture is taught, has stirred up an interest in that matter among persons preparing to teach; so that the number of such persons in colleges and also in the normal schools preparing to teach agriculture is increasing.

Senator PAGE. And if this bill should pass, so that it were generally known that there would be a demand for teachers, is it in your opinion probable that the supply would be equal to the demand within the next two years?

Dr. TRUE. I think it would be some years before the supply would be fully equal to the demand.

Senator PAGE. If it does not go too far afield from what you are trying to give us, I will say that it is suggested that we provide in this bill for the education of teachers in State normal schools, in the State agricultural colleges, and in colleges having a department for the preparation of teachers. The impression has gone out from some source or other that all these different preparatory schools would be insufficient to supply the demand for teachers if we should pass this

bill, at least for a couple of years. Have you an opinion in regard to that?

Dr. TRUE. I think that is right, Senator. I do not believe that there would be enough properly trained teachers for all these schools in two years.

Miss MARSHALL. May I ask if there are institutions enough to train them?

Dr. TRUE. No; there are not institutions enough to train them.

Miss MARSHALL. You mean by that that there are not enough people registered in the courses?

Dr. TRUE. There are not enough people in the training courses.

Mr. LAPP. To give a practical course in agriculture in a secondary school, what qualifications or what source of supply would you think best? Where should they come from? How should we train them? Should we take the practical men already trained, or take the boys and girls in the agricultural colleges and give them practical experience? Which is the best source of supply of teachers?

Dr. TRUE. On the whole, I think the secondary schools, the agricultural colleges, are the best source at present. But considering the conditions in this country, I think the normal schools must also do a considerable amount of that work.

Mr. LAPP. Do you think a normal school could prepare a practical teacher of agriculture?

Dr. TRUE. I think they can do so, yes, if they have proper equipment and proper teachers of agriculture themselves.

Mr. LAPP. Would not that mean a duplication in the agricultural and mechanical colleges if they were properly equipped?

Dr. TRUE. No, I think not, because my view of the matter is this: Strictly speaking, the normal schools should not be expected to prepare teachers for the secondary schools, but rather for the elementary schools.

Mr. LAPP. That is, for prevocational work, under 14.

Dr. TRUE. Well, they ought to be trained in the agricultural colleges, strictly speaking. That is, ideally, at any rate. All teachers in the secondary schools should have at least an undergraduate course in a college. But, under existing conditions in the United States, that is not likely to be true and not likely to be realized for a considerable time, and it is for that reason that I say for the present I think the normal schools may well be called upon to aid in the preparation of teachers for these schools if any large number of such schools are established in the United States within a few years.

(At this point Mr. Winslow, at the request of Senator Page, took the chair.)

Mr. WINSLOW. You may proceed, Doctor, if you will, with your remarks.

Dr. TRUE. The office, being in close touch with agricultural colleges and schools throughout the country, is often able to give information regarding teachers of agriculture available for secondary schools. For this purpose it has maintained a card directory of several thousand persons trained in agriculture. This office has also collected a large amount of information regarding the progress of agricultural education in the United States and foreign countries. The members of its staff frequently attend conferences of school and

college faculties, boards of control of agricultural and educational associations, and other bodies to advise with them on a wide variety of matters relating to the teaching of agriculture. That should be boards of control of such institutions, agricultural and educational associations, etc.

For a number of years this information was annually summarized in the report of the office, but recently an arrangement has been made with the Bureau of Education of the Department of the Interior by which this annual report of progress will be jointly prepared by this office and the Bureau of Education and published by the latter.

In much of its work the office has been aided by the other bureaus of the Department of Agriculture, and arrangements are now being made to further extend this cooperation, especially as regards the preparation of publications and illustrative material for use in the schools. The second part of the question is:

"The extent and ways in which the Department of Agriculture is encouraging education in household arts through schools of secondary grade."

And the question is answered as follows: The Office of Experiment Stations, through its nutrition investigations, has been furnishing the secondary schools throughout the country with much fundamental material which is used in giving instruction in household arts. This has been obtained through experimental research, and the collection and classification of general information.

As an incident of its relations with the agricultural colleges and schools this office has been brought into relatively close touch with the institutions in which household arts are taught, and thus has been able to bring the work of the department relating to household arts to the attention of a large number of teachers and students of this subject. The other bureaus of the department have also done considerable work on subjects connected with instruction in household arts, the results of which have been made available to the schools.

The technical bulletins on these subjects are now commonly used by teachers as sources of information. The popular bulletins (farmers' bulletins) on these subjects are very generally used in the schools, having been widely distributed by Members of Congress as well as by the department.

Question 2a. "The extent and ways in which the Department of Agriculture is encouraging elementary agricultural education in the rural elementary schools."

These are very similar to those employed for secondary agricultural education, but to a much more limited extent, since systematic instruction in agriculture in our elementary schools has been given comparatively little attention. The department has done much to promote the introduction of this subject into the rural schools of the United States.

Question (b). "The extent and ways in which the Department of Agriculture is encouraging education in household arts in the elementary schools."

These are very similar to those employed for secondary education in household arts.

Question 3a. "Information which the Department of Agriculture is now furnishing for use in agricultural education in public schools."

Special bulletins and circulars dealing with the subject matter, and facilities for secondary and elementary agricultural education, boys' and girls' clubs, etc., are being issued by the Office of Experiment Stations in cooperation with the other bureaus of the department.

Illustrative material for use in agricultural schools, including charts, photographs, lantern slides, moving-picture films, etc., is being prepared in a similar way to a limited extent, and arrangements are being made for extending this service.

The Office of Experiment Stations maintains a department of Agricultural Education in the periodical entitled Experiment Station Record, which involves the reviewing of the world's literature on this subject.

A card index of American and foreign institutions for agricultural education and a card index to the literature of agricultural education are also maintained.

Question (b). "Information which the Department of Agriculture is now furnishing for use in education is household arts in public schools."

The department is furnishing a large amount of information to schools on the composition, nutritive value, methods of preparation, and adulteration of foods, through its Office of Experiment Stations and the Bureau of Chemistry, and on the construction, equipment, and sanitation of the farm home, through its various branches. This is done through publications, correspondence, and personal conferences, as stated under question 1.

Mr. LAPP. Do you at this time attempt to do anything in formulating courses of study for the schools?

Dr. TRUE. For rural schools?

Mr. LAPP. Yes.

Dr. TRUE. Yes; we have been doing that and have published something on that work. That work has been done largely in cooperation with the Association of American Agricultural Colleges and Experiment Stations.

Mr. WINSLOW. You may proceed, Doctor.

Dr. TRUE. The Office of Experiment Stations, through its nutrition investigations, has been brought into close relations with the national organization, known as the American Home Economic Association, which includes in its membership a large number of investigators, students, and householders, and others interested in the home and its problems. Recently the association has been aided in the preparation of an extensive syllabus which classifies the whole content of the general subject. This syllabus will be of great assistance in formulating courses of instruction. Teachers can select from it materials needed for their particular need, and with such a survey of the whole field, can readily make sure that their courses of instruction are well balanced.

The publications of the department on food and nutrition and other household subjects are used very widely to supplement the textbooks. In this connection, it may be said that practically all textbooks now in use quote very largely from the results of the food and nutrition investigations of the department.

Question 4. "Is the Department of Agriculture equipped to meet all the demand for information of this kind at the present time on both agricultural and household arts education?"

The demand from the schools for publications, illustrative material, and advice regarding education in agriculture and household arts is much greater than the department is now prepared to meet and is constantly increasing. The department requires broader authority for work relating to the home and in response to its request and amendment along this line to the appropriation bill for the next fiscal year has been favorably reported by the Senate Committee on Agriculture. This broadens the scope of the nutrition investigations to include the—

"relative utility and economy of agricultural products for food, clothing, and other uses in the home, with special suggestions of plans and methods for the more effective utilization of such products for these purposes."

Question 5. "Additional appropriation needed by the Department of Agriculture in order to meet the responsibility for both agricultural and household arts education."

The department will require some additions to its budget from time to time to meet the reasonable demands for an enlargement of its service relating to education in agriculture and household arts, but these will not be large amounts. It should be in a position to secure and retain the services of a limited force of the best trained and experienced experts in these lines. More ample provision should be made for the printing of publications especially suited for use in schools.

Mr. WINSLOW. Do I understand that some of the bulletins now issued by the department have to be paid for? Is there any charge with reference to that?

Dr. TRUE. No.

Mr. WINSLOW. There is no charge? You always issued bulletins free?

Dr. TRUE. We issue a large number of bulletins free.

Mr. WINSLOW. You do now?

Dr. TRUE. We do now.

Mr. WINSLOW. And none of them have to be paid for?

Dr. TRUE. Well, this is the situation with regard to our department and all the other departments of the Government: That the department issues for free distribution a certain number of copies of each publication. After that distribution is finished, then such publications can always be obtained through the superintendent of documents, who fixes a moderate price for them.

Mr. WINSLOW. What is the demand for documents that have been exhausted, from your department, that have to be gotten from the superintendent of documents now? Is there a demand?

Dr. TRUE. Yes; there is a considerable demand.

Mr. WINSLOW. Even when there has been a price fixed upon that document there is a considerable demand for it?

Dr. TRUE. Yes, sir.

Mr. WINSLOW. Then it is not true that after the publications have been exhausted, so far as your department is concerned, that there is no longer a demand for them?

Dr. TRUE. No; that is not true. The superintendent of documents, I understand, sells more of the publications of the Department

of Agriculture than of any other department of the Government; and this should also be borne in mind in that connection, that the people of the United States do not yet generally understand that they can purchase the Government documents, and the arrangements which the superintendent of documents has been able to make thus far do not thoroughly facilitate the giving out of such information or the getting of the documents. There ought to be, in my judgment, some legislation which will enable the superintendent of documents to sell publications much more freely through the post offices, or otherwise, and if that were done I am sure people would buy them in much larger quantities.

We come now to the second division of these questions; that is, with reference to extension teaching in agriculture and household arts. The first question in that connection is:

"The extent of the farm extension work in agriculture carried on in this country at the present time with which the Department of Agriculture is connected in any way as to giving direction, aid, or assistance."

The Department of Agriculture is directly carrying on, in cooperation with State agricultural colleges, State departments of agriculture, counties, and other agencies within the States, farm extension work through two branches of its Bureau of Plant Industry:

1. Farmers' cooperative demonstration work in 15 Southern States, involving the employment of 1,075 county and other agents and the expenditure of $375,000 of department funds, $250,000 of general education board funds, and $490,000 derived from State sources.

2. Farm extension work in connection with studies of farm management in 25 Northern and Western States, involving the employment of 212 county agents and the expenditure of $138,000 of department funds and $390,000 from State sources.

The Office of Experiment Stations has a small division which collects information regarding the progress of farmers' institutes and other forms of extension work in this country and abroad, and aids in the promotion of such enterprises through cooperation with State departments of agriculture and agricultural colleges. For this purpose about $11,000 is available.

In 1913—these being the last figures that we have—about 25,000 sessions of farmers' institutes were held in the United States, the total attendance of which was about 3,900,000. In addition to this, movable schools, correspondence courses, rural study clubs, agricultural trains, demonstrations, and other forms of extension work were carried on by State agricultural colleges in which more than 1,000,000 additional people were reached. About $1,500,000 was spent by the State departments of agriculture and the State agricultural colleges for farmers' institutes, movable schools, and other forms of extension work.

Senator PAGE. To what extent do you think this work reaches the boy on the farm 12, 13, 14, or 15 years of age? It is designed to carry the results of your experimentation to the adult farmers on the farm, but there must be an overflow which reaches the boy to some extent. Can you give us any idea as to what extent?

Dr. TRUE. Only to a limited extent thus far.

Senator PAGE. That is all.

Dr. TRUE. Very often some institutions have young people's clubs, and then there are the boys' clubs, but, relatively speaking, only a small share of the farmer boys are thus far reached directly.

Mr. LAPP. Do you think it is possible to reach them through extension work?

Dr. TRUE. To a limited extent. That might be done in the widespread organization of these clubs and other institutes, if other forms of extension work were taken up, but that kind of work would involve, I take it, regular school instruction for young people. The second part of the question is: "Extension work in household arts carried on in this country."

Extension work relating to household arts is done by the department through the same agencies as is the farm extension work, but it is very much more limited in extent.

Representative FESS. Is the correspondence with these various associations simply with the officers or with members?

Dr. TRUE. Oh, with both.

Representative FESS. How general is it?

Dr. TRUE. It is quite a large correspondence; but, of course, it does not reach, by any means, the mass of women.

Representative FESS. That is what I wanted to get at.

Dr. TRUE. We are reaching, so far, in this kind of work only a relatively limited number of women. It is a comparatively new enterprise, and there has not been a very large amount of money put into it thus far.

Representative FESS. Have you gone far enough to estimate its value, as to whether it is justifiable?

Dr. TRUE. Oh, it is very valuable work; I have no doubt of that; and there is a great demand for it now.

Representative FESS. Do you find that the information that is being sought is being sufficiently appreciated to evoke a reply, or do they lightly throw the information aside?

Dr. TRUE. The number of replies only bears a small ratio to the whole number of publications given out, but replies are very considerable in number.

Representative FESS. I am interested, Doctor, in this general conviction that I have that when the Government is doing something free of charge a lot of people think it is not worth anything.

Dr. TRUE. That is so, to a considerable extent; but at the same time I think it is fair to say on the other side, that in any movement of this kind a widespread distribution of literature and information does produce considerable results.

Representative FESS. Yes. While this correspondence work is sent promiscuously, it is rather classified and you send it to representative people, do you not, rather than to everybody?

Dr. TRUE. Well, we reply to every letter that we receive. We do not make any distinction in the people.

Senator PAGE. Having in view the purposes of the vocational education bill, let me inquire if you think this work which you are doing in any way reaches, or to any considerable extent reaches, the girl, 12, 13, 14, or 15 years of age. Does it take the place of the teaching of home economics which this measure designs to accomplish.

Dr. TRUE. I think by such means as I have described we may reach the girls and help them to a certain extent, by arousing their interest and teaching them a few things; but in a general way I do not think that extension work ever will take the place of regular school instruction. It is just what it is called—extension work.

Senator PAGE. And not designed to aid the secondary schools at all?

Dr. TRUE. No; it has no relation.

Representative FESS. What is the specific value of extension work?

Dr. TRUE. It arouses interest in the subject and gives a limited amount of definite information which can be best used by comparatively mature people; but the better trained they are in the schools the better use they can make of this information.

Representative FESS. I think you are right on that. You have no doubt, Doctor, that this work that you mentioned just preceding this section, which is for the adult, will reach a great many of the younger people who are in these schools? It was not intended for them, but it will reach them.

Dr. TRUE. Oh, yes; it will reach them.

Representative FESS. I think there is no doubt about that. However, that can not take the place of real school work?

Dr. TRUE. No. In all discussions of these matters which relate to the United States broadly, I think we ought to have in mind the general vocational education in the United States, which is that the mass of the people are not going to school for any very long period. If we can, by extension devices, bring them additional instruction and information, however limited it may be, I think it is worth while doing; but while we are doing that, I think we ought also to labor in every way, most earnestly, to build up and improve our public school system, so that the time may soon come when the most of our young people can have at least a good elementary education, and, very many of them, a good secondary education.

The special feature in the extension work relating to household arts is the employment of women as special agents to form girls' canning clubs and give farm girls instruction in canning farm products for use in the home or for sale. In this way an introduction to the farm home is made and opportunity offered for further instruction and advice relating to household arts.

The Office of Experiment Stations has encouraged the organization of special institutes for women and girls and the organization of movable schools and correspondence courses of instruction on subjects relating to household arts.

The nutrition investigations of the Office of Experiment Stations maintain close relations by correspondence and conferences with teachers engaged in women's institutes, and other forms of extension work, with the home-economics section of the General Federation of Women's Clubs, with a similar section of the National Grange, with the American Home Economic Association, and with other similar agencies.

Question 2. "The character of this direction, aid, or assistance."

The county agents are located permanently in counties for the purpose of bringing to the farmers through demonstrations on their farms, and through personal conferences, the practical results of the

investigations of the department and State agricultural experiment stations and other similar institutions, and the best practices of farmers, and helping them to put them into effect on their farms. Farm boys are organized in clubs for the raising of corn, pigs, etc., on competitive conditions, for the purpose of stimulating their interest in improving farm practice and in country life, and the desire to get an education which will enable them to make the most of themselves as citizens and farmers. Clubs of farm girls have been formed in a similar way.

Representative FESS. How long has this movement been in vogue—the organization of boys' clubs, and so on?

Dr. TRUE. Only for a few years.

Representative FESS. So that you have no way to tell how it is stimulating the boy?

Dr. TRUE. Oh, we have a certain amount of information regarding the boys who have been in these clubs, and we do find that it is stimulating them in many cases to go on with their school work further than they would otherwise have done, probably, and that is helped by the prizes that are given in these competitions, and it has been found desirable more and more to make these prizes consist of opportunities for further education.

Senator PAGE. Has the boys' club movement been taken up in nearly all the States of the Union, or only in a few?

Dr. TRUE. Well, in more than half the States there are such clubs at present.

Senator PAGE. It is more particularly a southern movement is it not?

Dr. TRUE. More work has been done in the Southern States than elsewhere. The movement in the Northern States, as far as the department is concerned, is of quite recent origin; but outside of that there have been, in connection with the colleges and schools, also a considerable number of such clubs.

Senator PAGE. There is no considerable amount of that kind of work going on in New England, is there?

Dr. TRUE. Yes, sir.

Senator PAGE. There is some there?

Dr. TRUE. Yes, sir.

Mr. LAPP. Is there any in New York?

Dr. TRUE. Yes, sir.

Mr. WINSLOW. That is of recent origin; the northern work is of very recent origin?

Dr. TRUE. Yes, sir; as far as the department is concerned, that is true. Before the department got into this work the schools of the States and the local schools had done work of this kind to a certain extent.

Mr. WINSLOW. But very little?

Dr. TRUE. Relatively little.

Senator PAGE. How long would you say it was since the the department got into this work?

Dr. TRUE. In the Northern States only about two years.

Senator PAGE. The department, I say.

Dr. TRUE. Yes; the department.

Senator PAGE. How long since they entered into this boys' club movement——

Dr. TRUE. That we have been trying to promote it?

Senator PAGE. Yes.

Dr. TRUE. Oh, I should say it is 10 or 12 years.

Senator PAGE. I am asking in order that I might know something about the age of this movement, that is all.

Mr. WINSLOW. What is your estimate, Mr. Lane?

Mr. LANE. Do you have reference to the North or the South?

Mr. WINSLOW. The South.

Mr. LANE. In the South about 1906.

Mr. WINSLOW. In 1906 you began in the South to promote this kind of education?

Mr. LANE. Yes, sir; among the boys.

Mr. LAPP. Had that been taken up by any other agencies in the South before you took it up?

Mr. LANE. Not with any regularity.

Mr. LAPP. You were the originators in the South?

Mr. LANE. Yes, sir. It originated practically in the South, but not in the North. It followed in the North in view of the establishment in the South.

Mr. LAPP. What is the unit? That is to say, is it the township or the county or the community?

Mr. LANE. The county.

Mr. LAPP. Are there any examples of smaller communities where they have corn clubs and canning clubs?

Mr. LANE. That really is becoming quite common in the Southern States. The fact of the matter is they are organizing clubs in connection with their rural schools and making the school the unit rather than the county. That is the tendency.

Mr. LAPP. Do you find many examples of townships or school communities uniting together for the purpose of getting somebody to direct that work?

Mr. LANE. Not yet.

Representative FESS. The movement in Ohio was not an Ohio movement, especially. The interest was pretty generally recognized throughout many of the States in the North, but the movement in Ohio has grown greater within the last few years, due very largely to a wideawake secretary of agriculture. He has started this sort of a movement, asking certain persons whether they would give a prize or to see that a prize is furnished for the one person in either a congressional district or in a county or in a township that would show the greatest product on a specified amount of ground. He took that up on his own initiative, really, and has covered the entire State until it is really aflame. He started out asking Congressmen whether they would furnish a trip to Washington for a boy or a girl that had done the greatest work under certain conditions, and when that was responded to by the Congressmen, then he took it up with associations, and then with still smaller units; and the result was that there were 2,000 people here in Washington last summer, and they pretty nearly took the city. I am sure the people appreciated it. That is the way that matter has been enthusiastically accomplished in Ohio.

Mr. LAPP. I would like to know how the problem of the work among the girls compares with that among the boys.

Mr. LANE. In what respect?

Mr. LAPP. This club work; canning clubs and household economics.

Mr. LANE. In regard to interest?

Mr. LAPP. In regard to its progress or extent.

Mr. LANE. I think it has made as much progress as the boys' club work. I am inclined to think, too, that there has been more systematic help in instruction in the girls' canning clubs than in the boys' corn-club work.

Mr. LAPP. What phases do the girls' work take? Canning clubs, and what else?

Mr. LANE. Canning and sewing. There are tomato clubs. That has been the bigger movement—canning tomatoes.

Mr. WINSLOW. When did that begin?

Mr. LANE. I think it was in 1911.

Mr. LAPP. Are there any possibilities of similar developments other than in canning or sewing?

Mr. LANE. I think so, in connection with the teaching of economics in the public schools. I think there is a great possibility in the club movement.

Mr. LAPP. What are some of the subjects, for instance, that would be practical subjects for girl clubs?

Mr. LANE. Why, tomatoes or potatoes, or any kind of vegetables that might be found in a kitchen garden.

Miss MARSHALL. Do you think it could extend to other things besides the raising and canning of vegetables?

Mr. LANE. Why, I think so.

Miss MARSHALL. What, for instance?

Mr. LANE. All kinds of sewing.

Miss MARSHALL. I mean other than those things that have been so successful.

Mr. LANE. They have not gone into the matter of the contests in sewing and cooking, and things like that.

Miss MARSHALL. Could it extend to chicken raising or flower growing?

Mr. LANE. Why, certainly. And, really it is in some places outside of the department. That is, the State agricultural colleges have undertaken the work along that line, but not the department. The department had confined its efforts more to tomato club work.

Representative FESS. It is purely permissive, is it not? Is it not voluntary?

Mr. LANE. Oh, certainly; it is voluntary.

Representative FESS. How long will it continue?

Mr. LANE. Well, sir, I personally think it will continue as long as our system of education continues, provided it is connected up permanently with our system of education; and I believe that is where it belongs.

Representative FESS. Do you see the possibility of connecting it up?

Mr. LANE. Yes, sir.

Representative FESS. When it is so connected, it will not be still voluntary?

Mr. LANE. No, sir.

Mr. WINSLOW. The giving of prizes now stimulates it?

Mr. LANE. Oh, certainly.

Mr. LAPP. I would like to see it connected with the schools themselves, instead of with the experiment stations and the Department of Agriculture.

Mr. LANE. Yes, sir. I am safe in saying that that is the tendency on the part of a great many of our leaders in education to-day, that the club work has been similar to the garden work in our cities. It has been voluntary and independent of the system of education. The time has come now when we believe it ought to be made a part of our system of education.

Mr. LAPP. Do you know of any examples where a school has devoted itself to that particular line among the students and had them contest?

Mr. LANE. In connection with school farming?

Mr. LAPP. Yes; in connection with school farming.

Mr. LANE. No, sir; I know of no instance of that.

Mr. LAPP. Is not that practicable?

Mr. LANE. It is; but I believe the better method is to do the work at home.

Mr. LAPP. Would you not think that the group method of the school course would work out very successfully—that is, a contest between groups?

Mr. LANE. Well, it might in large farms. The difficulty there is the supervision of the work after the school has closed, and the children coming to school who have to care for those crops that they are growing.

Mr. LAPP. Are there not some examples of schools where the instructor stays on the job during the summer and supervises the work and the boys and girls come back to the school during vacation periods for occasional instruction?

Mr. LANE. Yes, sir.

Mr. LAPP. Is that successful?

Mr. LANE. It is, wherever they have carried that on.

Mr. LAPP. What kind of an instructor or teacher or manager is necessary in such a case as that? What are the qualifications for success?

Mr. LANE. Well, the qualifications, first, I should say, would be some knowledge of agriculture and a leader of young people to get the children to come to the school.

Representative FESS. I would suggest that we continue.

Miss MARSHALL. I would like to ask one more question.

Mr. WINSLOW. Certainly. You may ask your question.

Miss MARSHALL. Have you any evidence of what this work has led to with the girls, as to whether it has led to a vocational training in the schools for self support, or anything of that kind, or whether it has merely given them a better understanding of preparing food in their homes?

Mr. LANE. I am inclined to think that the work has not been going on long enough to pass on that question.

Mr. LANGWORTHY. I just happen to have learned from Florida that the girls, a great many of them there and elsewhere, try to go on and educate themselves afterwards in home economics or household arts, and they never would have done it otherwise. It has been the opening wedge to a possibility of such an education for vocational purposes, in many, many cases.

Miss MARSHALL. Home economics used in that sense is education. I distinguish, personally, home economics as a general education for the general knowledge of a woman which she needs in her home work, and home economics as a vocation, such as institutional management or dietary work or supervision work, etc.

Mr. LANGWORTHY. I had used it as a broad term covering all of those.

Mr. WINSLOW. You may proceed, Dr. True.

Dr. TRUE. The department directly supervises this extension work as far as its own funds are concerned, but carries on the work under cooperative agreements with the State agencies concerned in it. It also furnishes a large amount of advice and assistance along all lines of extension enterprises and furnishes a large number of its publications to the agents engaged in this work, and to farmers and their families.

The third question, "Extent and ways in which the Department of Agriculture is now furnishing directly to the farmer information for use in farming and to women on the farm for use in household arts," I think has been sufficiently answered in questions 1 and 2.

The department will furnish the commission more detailed statements regarding its extension work for farmers and farm women if the commission so desires, and will indicate the extent and character of the details it desires.

Question 5. "Is the Department of Agriculture adequately equipped at the present time to meet the calls for assistance in dealing with the individual farmer?"

The department and the cooperative State agencies are now organized for effective farm extension work in only about a third of the counties of the United States, and probably less than one-fifth of the farmers are at present being reached by any form of extension work. Only a few thousand of the farm women are as yet reached by extension work in household arts.

Representative FESS. Doctor, you say that those State agencies are organized in about a third of the counties of the United States. Where are those counties found?

Dr. TRUE. Those counties are found in 42 States, I think.

Senator PAGE. Some of the States are pretty well covered, are they not?

Dr. TRUE. There are about half a dozen States that have no county agents.

Senator PAGE. In my State I think 8 of the 14 counties are covered. That is done not independent of the Department of Agriculture, but largely by public subscriptions?

Dr. TRUE. No, sir; in connection with the department.

Senator PAGE. We have some pretty liberal, enterprising, progressive men there who are devoting a great deal of their time to this and it is being carried on very successfully, I think.

Dr. TRUE. The next question is: "Can we assume that the Lever bill equips the Department of Agriculture to meet properly the demands upon it in connection with farm extension work provided for in that measure?"

The initial appropriation under this bill is $480,000, or $10,000 for each State. This amount is entirely inadequate to meet the require-

ments for extension work in agriculture and household arts. The additional sums provided for in this measure will gradually relieve this situation to a certain extent, but even when the appropriations under this measure reach their maximum, it is probable that there will still be need of direct appropriation to the department to meet properly the demands upon it in connection with extension work.

Representative FESS. You have no idea what that maximum is, have you?

Dr. TRUE. I have no idea. The House voted to make it $3,000,000, and the Senate voted to make it $4,800,000.

Senator PAGE. It is now pending in Congress, is it not, Doctor?

Dr. TRUE. I have not seen the bill; it has not been reported from Congress.

Representative FESS. No; it is in conference.

Dr. TRUE. Question 7a relates to the relations of the Department of Agriculture and the Bureau of Education as to vocational work and home economics. As regards the general teaching of agriculture in the schools as a part of general education, the Department of Agriculture is chiefly interested in the content of what is taught in the schools generally along the lines of agriculture and its allied sciences.

The Bureau of Education is interested in the broadest way in the methods and organization of such teaching and its relation to general courses of instruction.

As regards agricultural education in schools for technical and vocational agricultural training, the Department of Agriculture is interested in the content of the courses of agriculture, in the curriculum of such institutions, and generally in all that goes to make up the system of agricultural education conducted in such institutions.

Representative FESS. Do you differentiate between technical and vocational training? What is meant by technical? Is not that included in the vocational?

Dr. TRUE. I was thinking there of the higher education more particularly, such as is given in the agricultural colleges and more advanced work.

Representative FESS. It might be included in the term vocational?

Dr. TRUE. Oh, yes; to a certain extent.

Representative FESS. I wondered whether you had reasons for it.

Dr. TRUE. We are in the habit of using the term vocational as applied to institutions where the chief effort is to produce practitioners. The practice of the arts is emphasized, though the theory may be taught to a certain extent.

Representative FESS. And in the technical you are dealing with principles instead of mere application of them.

Dr. TRUE. Well, principles are emphasized more largely.

Senator PAGE. In the discussion of the administrative features of the Page bill there was considerable question as to whether the administrative features should be left entirely with the Department of the Interior, through the Commissioner of Education, or whether the work should be connected with the Interior Department and the Department of Agriculture. The suggestion was that the Department of Agriculture would certainly have to be connected up with the extension work, which, you will remember, was a part of the Page bill; and with the extension work eliminated from that bill and

the bill relating now entirely to vocational education, would you, because the vocational education includes education in agriculture, regard it as advisable that the Department of Agriculture be connected with the Department of the Interior in carrying on this work?

Dr. TRUE. I think that it would be better to give the administration of the law to one department, and, following precedents, I should think that would be the Department of the Interior. The Department of Agriculture should, however, be recognized in an advisory capacity, I should say, either in the bill or else in legislation outside of that defining the functions of the Department of Agriculture with reference to this education.

Senator PAGE. You will remember, perhaps, Doctor, that in the Page bill an appropriation was made to aid the Department of Agriculture and the Department of the Interior——

Mr. WINSLOW. And the Department of Commerce and Labor.

Senator PAGE (continuing). On the supposition that each of the three would do some work in connection with vocational education. Would you think it advisable to have any additional appropriations made to carry on that part of vocational education work which will devolve upon the Department of Agriculture, or have you all the machinery now necessary, so that you do not need any additional appropriation in your department?

Dr. TRUE. If we were to have any considerable work to do we should need more money than we have now, but that might be obtained just as well through the regular appropriation bill.

Senator PAGE. The raw material which the Bureau of Education could use you would have already gathered in your ordinary lines without the necessity of any additional appropriation for your department, you think?

Dr. TRUE. Oh, yes, sir; we have a large amount of information which could be of use to such schools. We think we ought to have the opportunity to work them up ourselves to a form which can be used in the schools.

Senator PAGE. Independent of the Commissioner of Education?

Dr. TRUE. Yes, sir; or in cooperation with him.

Senator PAGE. There was some objection to the division of this appropriation among the three departments.

Dr. TRUE. But that is not administrative work.

Mr. WINSLOW. There was an appropriation—I do not just recall the figures, but I think something like $30,000—for the Bureau of Education, for the Department of the Interior, and $20,000 for the Department of Agriculture, and $20,000 for the Department of Commerce and Labor, to be used in cooperation in the dissemination of knowledge gained by each department, that they should act in an advisory capacity to the men in charge of the Bureau of Education. Do you recall that?

Dr. TRUE. Yes, sir.

Mr. WINSLOW. Do you think that a good plan?

Dr. TRUE. Why, I see no particular objection to that.

Mr. WINSLOW. You still believe that the information gathered by the Department of Agriculture should be worked up by the Department of Agriculture and sent out by them to the schools?

Dr. TRUE. I think so.

Mr. WINSLOW. Independent of the Bureau of Education?

Dr. TRUE. Yes, sir.

Mr. LAPP. You mean to extend that, Dr. True, to the matters relating to methods of teaching agriculture from material which you have relative to that subject?

Dr. TRUE. No, sir.

Mr. LAPP. Just where would you draw the line between the Department of Agriculture, in that respect, and the Bureau of Education?

Dr. TRUE. We are trying to approach that line now, practically.

Mr. WINSLOW. He has indicated that.

Dr. TRUE. It is indicated in this paper. Perhaps, if I read it through first it might be better.

Mr. WINSLOW. Proceed, Doctor.

Dr. TRUE. I was stating with reference to the secondary vocational work that both the Department of Agriculture and the Bureau of Education are interested in. I say we make this distinction, that the Department of Agriculture is interested in the content of the courses in agriculture, in the curriculum of such institutions, and generally in all that goes to make up the system of agricultural education conducted in such institutions.

The Bureau of Education is jointly interested in these institutions in so far as they constitute a part of the general scheme of education of the people. It is also interested in the pedagogical side of the curriculum of such schools.

As regards extension work in agricultural education, the Department of Agriculture is interested in the organization, method, and content of such education.

The Bureau of Education is also interested in this class of education with special reference to its relation to the general scheme of education and the correlation of practical education in the home and on the farms with education in the schools.

Much of the Government's work relating to agricultural education can be best done by cooperation between the Department of Agriculture and the Bureau of Education. In the past the Department of Agriculture has very largely occupied the field, but with the growth of the Bureau of Education and its increased interest in agricultural education, it is desirable that there should be a readjustment of the functions of these two agencies, and this is already being provided for in a cooperative agreement between the Office of Experiment Stations and the Bureau of Education.

Mr. WINSLOW. Will you show to the committee those agreements, Doctor?

Dr. TRUE. The agreement that we have entered into is a very simple one, so far. There is no objection, if the commission desires to have it, to giving you a copy of it.

AGREEMENT BETWEEN THE OFFICE OF EXPERIMENT STATIONS AND THE BUREAU OF EDUCATION REGARDING WORK IN AGRICULTURAL EDUCATION.

In order to provide for cooperation between the Bureau of Education of the Department of the Interior and the Office of Experiment Stations of the Department of Agriculture in work in agricultural education, the following agreement is made between the Director of the Office of Experiment Stations and the Commissioner of Education.

1. The work to be conducted cooperatively will be outlined in the form of projects which must be approved by the Commissioner of Education and the Director of the Office of Experiment Stations.

2. In making preliminary arrangements for cooperative projects in agricultural education and in supervising the carrying out of approved projects, the Office of Experiment Stations will be represented by its chief specialist in agricultural education, and the Bureau of Education by its specialists in rural education.

3. Publications prepared as the result of cooperation between the Office of Experiment Stations and the Bureau of Education will be published in accordance with the terms of approved projects.

Mr. WINSLOW. Dr. True, I think we are interested to know whether there is duplication of work, and we of course know that you have a great many specialists in your department, and if the Bureau of Education becomes interested in doing the kind of work that you are now doing, the only source of supply of experts is in your department, is not that true? You can not get them outside of your department. Naturally, they would have to come to your department and get men by transfer.

Dr. TRUE. Oh, in the department and in the States, we must take into account, in considering this question, I think, the historical factor, as well as the theoretical factor. For many years the Bureau of Education took almost no interest in agricultural education. It was perfectly natural, because the subject was not being considered very much in the schools of the country generally. The Department of Agriculture, therefore, undertook to promote agricultural education, and for a considerable period our chief effort was that of a propaganda in favor of agricultural education As that progressed, it was necessary to put the matter, as far as advising people was concerned, in some definite form; that is, for example, when I went out myself—as I used to go—to farmers' meetings or meetings of teachers, the question in those days was, What can you teach in agriculture that is worth while teaching in the schools? So the Department of Agriculture undertook to formulate some definite courses of instruction and to promote definitely the establishment of such courses in schools. As this work began there arose a demand for the subject matter to teach, and so we undertook to prepare that as far as we were able to say very definitely what was to be taught. Now this movement has spread rapidly. Everybody is in favor of agricultural education, and the school men and the people are agreed on that point.

The Bureau of Education now is just as much interested as we are in the matter. Thus far they have not had a very large amount of money to work along that line, and so we have been continuing the work, and we have accumulations of years along that line.

We realize very fully that there ought to be a readjustment of the functions of these two governmental agencies, and we are trying as far as we can within the limits of existing legislation to bring about that readjustment by cultivating cordial relations with the Bureau of Education and by entering now into definite cooperative agreements with them for work in particular lines.

It seems to me, giving simply my personal view of the matter, that we ought to reach through some kind of legislation a definite understanding as to the functions of these two governmental agencies, and that that legislation ought to provide for definite cooperation of the two agencies rather than the elimination of either one of them. And, in saying that, I am keeping in mind the fact that experience in other countries has brought out very clearly the desirability of having both the ministry of education and the ministry of agriculture deal with the subject of agricultural education.

One of the latest arrangements along that line is in Great Britain. For many years, or up to within very recently, they have had no regular system of agricultural education in Great Britain, but as far as work was done along that line the matter was handled very largely through their office of education; but now an arrangement has been made by which the supervision of all the parliamentary grants for agricultural education which relate to the experiment stations, agricultural colleges, and secondary schools are made through their board of agriculture, and the board of education has left the function of dealing with such education in the elementary schools and in general relation to the school system.

In France the ministry of agriculture deals in a more thorough way with all the institutions for research and higher and secondary education in agriculture. That is true in other countries.

Mr. WINSLOW. Is it not also true that in England recently they have tied up some of the so-called industrial education with the agricultural department? For instance, in some of the training schools of Dublin you will find the agricultural department supervising some of that training——

Dr. TRUE. That is under a different and separate agency for Ireland, as I understand. Ireland has its own board.

Mr. WINSLOW. But it gets its grants just the same, and its supervision comes from the other side of the channel.

Dr. TRUE. Yes.

Representative FESS. Suppose there is a movement in Delaware or some State near here to have agriculture placed in a township school or a high school, and they would send to me and ask that I should see that some one capable of doing that work, speaking to the populace and interested in that kind of work, be sent to them. Where would I go—to the Department of Agriculture or to the Bureau of Education?

Dr. TRUE. Well, under existing conditions you might go to either one, because both are working with certain features of that work.

Representative FESS. Would the Bureau of Education or the Department of Agriculture, or both, regard it as within their functions to send people to respond to such calls, to speak to the groups that would come to hear that subject discussed, or would the department say, "It is not our function"?

Dr. TRUE. Under existing conditions we might do that to a limited extent, but we take this general position, that we are not to deal with each school, but with the organization in the State; so that we do not expect, of course, to employ a force of people large enough to discuss these matters in every township in the United States. We have gone out principally to the meetings of the State teachers' associations and organizations like the National Educational Association.

Representative FESS. Would you find a crowd to listen to the specific character of work that you would be presenting? Would they respond to it? In other words, the people who gather promiscuously to hear discussed the plan of inaugurating agricultural subjects in a township high school—would they listen to the expert information given by an expert of the department?

Dr. TRUE. Oh, yes; there is no difficulty about that.

Representative FESS. That is good.

Mr. WINSLOW. Are there any other questions to ask, Dr. True? Have you finished, Doctor?

Dr. TRUE. I am not quite through. As far as household arts education in the schools is concerned, the Department of Agriculture is chiefly interested in the content of such education as related to agriculture and the rural home. Its chief function in this field should be the making of investigations and the supplying of information relating to household arts.

As regards extension work relating to household arts, the Department of Agriculture is the best agency for supervising the Federal funds devoted to this work in the States as far as this relates to the rural homes, since this can be most effectively and economically carried on as a part of the general system of governmental extension work for rural communities. Of course that is recognized in the Lever bill.

As to the eighth question, the Department of Agriculture will furnish the commission such further information regarding its present and proposed activities in promoting agricultural and household arts education as the commission desires to incorporate in its report.

Senator PAGE. Do you desire to supplement what you have already said with something further?

Dr. TRUE. I had nothing further in mind.

Mr. WINSLOW. You have nothing further to offer, Doctor?

Dr. TRUE. I have nothing further.

Mr. WINSLOW. Mr. Langworthy and Mr. Lane, have you something that you wish to offer?

Mr. LANGWORTHY. The question was asked somewhat earlier in the morning about Government documents which were not available for distribution, and I think you might be interested in two specific instances.

Bulletin No. 28, of the Office of Experiment Stations, called Chemical Composition of American Food Materials, has been exhausted for several years—five years, I should say; and yet the superintendent of documents constantly reprints them in order to meet the demand for them. It is the highest standard of compilation of analyses of food materials. The same thing is true of the set of food charts showing graphically the composition of food materials. Those are used by colleges and schools in giving instructions in these topics. These charts show almost at a glance what a food is made of. The department could not buy any more of them for lack of funds, and the superintendent of documents has put out four or five times as many as we did. The people are purchasing them for schools and for home use. And simply in order to avoid the delay of getting publications from the superintendent of documents, many schools and colleges will buy these bulletins on food and nutrition. I know more about them than I do about agricultural bulletins. They are sold at 5 cents a copy for the sake of getting them quickly if there is a delay in the usual mechanism. Up to date the department has distributed of these bulletins, of which there are 20 or 30 on food and nutrition, about 7,000,000 copies to meet the popular demand. I suppose the Senators and Members of Congress have distributed many many times more than the department has.

Representative FESS. Upon what basis is this distribution made? Only to those who make application?

Mr. LANGWORTHY. To those who make application.

Representative FESS. That is unusual if not remarkable?

Mr. LANGWORTHY. We send out in the first place to a limited list. Now it is meeting the demand of the people themselves. You asked if they ever thank us for it. They do, very, very often. They write to us and say that that is the information they wanted and they could not get it elsewhere. Whenever they write, for instance, and ask us a question—some of which are very hard to answer—we endeavor to give them the information desired. For instance, one will write in and say, "My wife is not very well and I have several children. What can I do to feed my family more cheaply?" We have to tell them that we can only give general advice, because we have no one to send to look into a particular case. That might be done if this work was developed as we all hope it will be under pending legislation.

There should be a State and county officer to give help in such a case. But they do write, telling us that the work has met their wishes, and we give them specific information a great many times.

A woman will ask about some definite thing—about housekeeping, for instance. This question has come in once or twice, "How can I make lye hominy?" It would seem as if anybody would know how to make lye hominy, but we take the pains to give the recipe to that woman.

Representative FESS. I have wondered about the wisdom of general distribution of documents except on request.

Mr. LANE. It has seemed to me that if they did not care for it they would not write, as they so frequently do; that they do care for it and do make use of it. "We have found such and such a woman's club has succeeded in getting publications from the Department of Agriculture to study home problems with," they said, "how can we get it, too?" And then they will take pains to write back, "That is just what we want and we find it useful."

Then there is another indication, if they were not really of definite value, I doubt if the newspapers and advertising agencies would be so anxious to reprint them and distribute them for their own use. The Brooklyn Eagle, for instance, has reprinted and many private agencies have reprinted and sold in bound form our publications. There is an encyclopedic work published in one of the cities of New York which is made up almost entirely of Department of Agriculture publications on home problems.

Representative HUGHES. I wish to say that I have adopted the plan of sending the circulars throughout my district, with the request that they would mark those which they desired and I would send them, and I have had a most ready response from Georgia. They have sent for a great many, and it has been my great pleasure to send the publications to those gentlemen.

Mr. WINSLOW. I do not want to seem to hurry the gentlemen who have been so kind as to give us the information this morning, but the time for the Navy Department arrived some 15 minutes ago and Commander Brittain is here in lieu of the Secretary of the Navy, and will present his statement now.

Senator PAGE. I want you to know, gentlemen, that we are greatly indebted to you for what you have said to us this morning. We appreciate your suggestions very highly.

STATEMENT OF COMMANDER CARLO B. BRITTAIN, UNITED STATES NAVY.

Commander BRITTAIN. I wish to explain to you that Mr. Daniels had intended to come himself, when Senator Smith wrote him two or three days ago, but he is very much occupied now with other matters and is not able to come. The next officer in the bureau of the department that has charge of educational matters is Rear Admiral Blue, who is also with the Secretary, and they asked me to appear before the commission, and I have brought with me a memorandum that I had prepared for the Secretary's signature, but he has not signed it. However, it contains the gist of what we are trying to do in the Navy in the way of education, and perhaps when the hearing is over it will be possible to modify it and improve it so it will suit the purposes of the commission better than it does in its present form.

Representative FESS. We should be glad if you would be willing to undertake to do that.

Commander BRITTAIN. With regard to question 1, "What is the Navy Department doing to promote the efficiency of the enlisted men in the United States Navy in the following subjects: (a) General education," I will say in answer to that that in December last Mr. Daniels issued a general order, that is, an order that goes to every officer in the Navy, that mean to some 3600 officers, stating that a system of general education was to be begun. I may read one or two short paragraphs from this general order, which will indicate in a general way what it is. They will not be long, sir; and we can furnish copies to each of the members of the commission and to persons interested, if they so desire.

Representative HUGHES. We will be glad to get them.

Commander BRITTAIN (reading):

GENERAL ORDER No. 63.

NAVY DEPARTMENT, *Washington, D. C., December 16, 1913.*

INSTRUCTION ON BOARD SHIP.

1. *The following plan for the instruction of enlisted men*, petty officers, and warrant officers of the Navy serving on board ship will be put into effect January 1st, 1914, with a view to supplying deficiencies in academic education and also to provide systematic means by which all enlisted men and warrant officers may receive the assistance and encouragement in technical branches which may ne necessary to fit them for promotion in the Navy or which will better prepare them for civil trades at the end of their period of service afloat.

2. *The instruction under the two heads*—academic and technical or professional—will be under the general direction of the commanding officer. The executive officer will have immediate charge, and he will be assisted by all commissioned officers and by such warrant and petty officers as may be necessary in the different departments on board ship.

3. *Division officers* will carefully examine all men under their supervision, noting the deficiencies of each man, the amount of instruction he may have received at the training station, the branches in which further instruction is most needed, the fitness of each man for promotion, the branch for which he is best suited, and the personal preferences and ambitions of each individual in order that classes may be formed to secure progress and improvement in the mental and technical training of men in every branch of the Navy service.

Commander BRITTAIN. That satisfactory standard has been determined to be what is known by many as the "common school" course, a fair understanding of the common school branches, or, as referred to in city schools, as the "grammar school branches."

Senator PAGE. It is very necessary that I be present in the Senate this morning, on account of the importance of matters there, and I will ask Congressman Hughes to take the chair in my absence.

Representative HUGHES at this point took the chair.

Commander BRITTAIN. The answer to the first question, "What is the Navy Department doing to promote efficiency of the enlisted men in the United States Navy in the way of general education," is that I inclose (this is by Secretary Daniels) a copy of General Order No. 63, recently issued by me as the head of the Navy Department, which covers in a very general way a comprehensive educational system in the Navy which is now being inaugurated. The contents of this general order indicates the extent of the general education that is to be carried on.

"(*b*) Commercial education."

The features of commercial education are more limited, although facilities for becoming expert clerks, stenographers, typewriters, bookkeepers, etc., are to be given to all men desiring such.

We have a school on shore known as the "yeoman's school." The yeomen assist at the admiral's correspondence; the paymaster's books are to be kept and the records of the ship itself, its liberty list and the records of the men, so it requires on a battleship of 1,000 men perhaps 10 men whose duties are almost purely clerical, and they are known as yeomen. In the yeomen's school which has been established are about 100 men, and when they become expert stenographers and typewriters and in knowledge of Navy methods they are transferred to seagoing ships. On board those ships they are permitted, if they so desire, to continue that much further than the ship's requirements are. For instance, the paymaster is supposed to be an expert accountant. He has a clerk who is not an enlisted man, who is also an expert, and if any enlisted men want to take a course in bookkeeping, such as carried on in banking, for example, he is permitted to do so.

Representative FESS. That would be on board ship?

Commander BRITTAIN. That would be on board ship.

Representative HUGHES. Are those courses optional?

Commander BRITTAIN. Those advanced courses are optional. The matter of general education which I have just referred to as common-school education is compulsory for men who have not served more than half of their enlistment. If they have been in the service a few days longer than one-half of their enlistment, it is optional. I will give you figures for it directly that will show about how many that extends to.

"(*c*) Industrial and trade education."

Industrial and trade education is covered by the general order. Men desiring such are to have instruction as far as the facilities on board ship permit. This will include boiler making, carpentering, blacksmithing, electrical work, both general and radio, operation of steam machinery, navigation and commercial work as above referred to under (*b*), catering and cooking, seamanship and other professional work pertaining to the naval profession.

I touch very lightly on the work pertaining to the naval profession, such as gun captains and gun pointers and things of that sort, which to our mind is the most important thing, believing that the

commission only cared to go into what you might consider outside educational work rather than technical.

Representative FESS. That is entirely optional?

Commander BRITTAIN. There is this, sir, that you will find in the general order, that before a man—say he enlists as a fireman—can be advanced to a water tender or machinist he must pass an examination and must be thoroughly familiar with all of the appliances that he is going to handle, and in order that he should be so we prepare handbooks and pamphlets giving the questions that he should know and the answers to the most difficult ones so that he will have a book that he can go by in preparing himself.

Representative FESS. Do many embrace these opportunities?

Commander BRITTAIN. Yes, sir. You will notice the order is dated in December, and it was to go into effect on January 1. The chief difficulty, as far as the common-school educational work was concerned, in getting started, was to get suitable books. Mr. Daniels wished to be very careful in the selection of books, and of course many publishers wished to sell them, perhaps feeling it would be an advertisement more than the profits from the actual number sold, although we started out in buying as many as 10,000 of some of the books, our canvassing of a few of the ships indicating there would be that much interest shown in them. Of these books arithmetic was the most popular, the next best to that being history and geography. So it was from January until March before we had examined a great many books and decided which ones would be taken, and the books are just now being put on board ship. But without waiting for the actual obtaining of the books that would be used when finally adopted, we have libraries on board ship, and we distributed about $2,000 worth of books on ships, so the instructors would have them, and we found that the response to it was very great, which was a great surprise to most naval officers. I, myself, was very much surprised at the interest shown in that part of the work.

Representative HUGHES. Are a great many of the men who enlist in the Navy uneducated men?

Commander BRITTAIN. No, sir. I will give you a few figures on that in a moment. You will be surprised to hear them. When we received this letter from Senator Smith, Friday night, I telegraphed that night to three training stations—one at Norfolk, which has about 800 men; one at Newport, which has about 800; and one at the Great Lakes, which has about 1,000; altogether, 2,559 men. One of the questions asked here was to what extent——

Representative HUGHES. Answer that question later. We do not want to now interfere with your regular statement.

Commander BRITTAIN. All right, then. I shall not take very long.

Representative FESS. We want you to take all the time that you desire, because this is exceedingly interesting.

Representative HUGHES. It is very interesting to me.

Representative FESS. It is a new field to me.

Commander BRITTAIN. In addition to this work, which will be carried on aboard ship, there are established schools for limited numbers, as briefly described on pages 12 to 16 of the pamphlet entitled "The making of a man-o'warsman," which I also inclose.

This little pamphlet is distributed broadly over the country as a recruiting pamphlet, and we pride ourselves that it has no pictures nor makes any comments that can not be faithfully carried out on the part of the Government to the men. It is an interesting little book, and if the commission would care for it I could easily supply each member with a copy. It has pictures in it, and if you have boys they would find it very interesting.

Representative HUGHES. We would appreciate that.

Commander BRITTAIN. It is interesting. I read it more enjoyably than I have anything for some time. It is an old book and not the result of Mr. Daniels's efforts in the line of education. I would say also this little pamphlet is brief, and your commission's attention is invited to the daily life aboard men-of-war, which is in itself of an educational nature, and we wish the commission would fix that in their minds—that even if there were not a single book on board ship a man could not stay there six months and not have become quite educated as far as the information that he requires is concerned, without any assistance of a book at all.

Representative HUGHES. It is largely practical?

Commander BRITTAIN. Yes, sir.

We have two electrical schools, one at Mare Island and one at New York. They have, combined, 210 people. Young men who have just enlisted and who show an aptness for electricity are sent there. They are divided into two classes, according to their likings and their adaptability. One is radio or wireless electricity, pertaining to that part much like the telegrapher's work, and the other pertaining to dynamos and the dynamic part of it. Without reading you all that it says there, they are given a thorough training of six months in machine shops and learn to make all sorts of dynamos and engines; that is, they learn to make and put together and wind armatures, things of that sort, for which a man would have to pay a good deal of money outside. They are taught all of the faults that occur and repairs of dynamos and different kinds of armatures.

They know about as much about a telephone as the electrician of a telephone company. The work is both practical and theoretical, and covers a period of about six months, upon the completion of which, if a man is diligent and ambitious, he is amply qualified to hold any job in his line, should he decide at the end of his enlistment to return to civil life.

When they have left those schools it is not possible for them to return to civil life immediately, except in a few cases, where extraordinary circumstances make it desirable for the man to be let go, no effort being made to retain him. He is permitted to go free, but he knows enough then to go into the outside world and compete with the ordinary electrical repairman, the man who is going to wire a house, run dynamos in a hotel or other place of that sort.

Representative FESS. Then, Commander, the object of this training is not confined to the service rendered on the men-of-war or for the service in the Navy, simply?

Commander BRITTAIN. It is particularly that I am reading to you now. It had been our object to fit them particularly for service on board the man-of-war. Mr. Daniels now has extended that so that on board a man-of-war a man can take a term of instruction in engineering of a kind that would not be used aboard ship. He

might be a man running engines, and when he goes out he may want to be a locomotive engineer, and if he did desire that, facilities for giving him not all the practical instruction he ought to have so that he might be a locomotive engineer, but enough to enable him to get a job when he went outside.

Representative FESS. In other words, that course equips him for an occupation when he reaches the end of his enlistment?

Commander BRITTAIN. It does.

Representative FESS. That certainly is very commendable.

Commander BRITTAIN (reading). "After completing the course the students are usually given a leave of absence before being assigned to their duties in the Navy."

Without reading the others, I will mention that the yeoman schools are at Newport, R. I., and at San Francisco, Cal. There bright young fellows, who want to take up clerical work and who have some knowledge of typewriting and stenography, are assigned, and they learn first the Navy Regulations, because those men are perhaps like the clerks to your committees, who tell you if you wish to find the regulations on any subject or what the rule or statute of law is, and they will be able to put their hands on it quickly. In addition to that, they are taught how to keep the books on the ships. Every department of the ship has very strict accounts of their issues of materials and things of that sort, so that they must know something about bookkeeping; and then some of them, the paymaster's clerks, keep the accounts of officers and men and foot up them at the end of the month and quarterly.

This education, you will understand, does not require them to be stenographers, but facilities are offered them so that most of them do become stenographers. Their pay runs from $30 to $70 per month, starting out with $30 or $33. If a man is good, in a year he is rated, and he will get $45, and if he still makes good he may by the end of the fourth year be getting $66 or $70 a month, and if he is a good stenographer he would have no difficulty getting a job outside. For instance, in the Navy Department now are men I know, sailors I have been with. I get letters saying, "I think I will not enlist any more, and I would like to know what the chances are for getting a clerkship in the Navy Department." I had an inquiry to-day from a man whom I knew was excellently qualified as a reliable man, and the chief clerk of the Navy Department said he would have no difficulty at all getting a $900 job right away, getting his name put on the list, and he would step out into $900 as soon as a vacancy occurred. So you can see how the class of men is very well equipped there.

Representative FESS. Is there any expense attached to this?

Commander BRITTAIN. None at all, sir. There is to the general educational one, because of the cost of supplying books. To equip a man with all the books costs about $2.50. To equip all would cost the Government about $40,000, perhaps. So the Secretary has required them to buy their general educational books, but the books that pertain to the advancement and the knowledge required of them on board ship are furnished.

Representative HUGHES. That is, elementary or common school books?

Commander BRITTAIN. That is for their own books entirely. They would be just as good men, so far as the Navy is concerned,

without them. This is to give them the advantage of them if they want to take it.

There is a course at the musicians' school. We have bands in the Navy. All large ships have bands, and in order to keep them supplied we have a school at Norfolk, where about 100 men are taught playing instruments, and aside from that all men on board ship are encouraged that have any talent, and if they are likely to make pretty good musicians they are taken into the band, where they get some higher pay than the seaman does. There is a school for the training of the Hospital Corps. There are about 100 men in that school. They are taught the principles of nursing, of applying bandages, attending the sick, as set forth rather minutely, but the words "Hospital Corps" themselves indicate what it is for—to care for the sick.

Representative FESS. Is it a school organized for that?

Commander BRITTAIN. Yes, sir. They have 100 men, and they are developing it. Heretofore they have been kept at the school only long enough to take care of themselves pretty well and then sent to sea, and then they were brought back to the school for more instruction. Now, since we have started this larger educational work, the doctors have improved it by increasing the amount of their work. In the department there is a handbook gotten up—for instance, the medical handbook, of perhaps 150 pages—of all of the simpler things. It is not what a practicing doctor would want to know, but it has all the simpler things about what are likely to happen to people, restorations of the drowned, first aid, and all those things, and some knowledge of anatomy, so that a man would be pretty well equipped.

Commissioner CLAXTON. Is that prepared especially for them?

Commander BRITTAIN. That is prepared especially for them, and is in the printer's hands right now.

Mr. WINSLOW. You print cook books, too, do you not?

Commander BRITTAIN. Yes, sir. Then there are the artificers' schools [reading]: "The artificers are taught the general construction of vessels, carpenter work, plumbing, fitting, blacksmithing, painting, and all matters pertaining to the putting together and repair of different parts of vessels in wood, steel, iron, copper, lead, etc. The school is divided into separate classes for each trade."

Then there is the Washington Navy Yard where seaman gunners are taught. Every man who has served his entire enlistment is given four months to reenlist with continuous pay. A man is sent there to become expert in ordnance, breech mechanism, the manufacture of shells, and the workings of electrical firing devices, and when they leave there they are rated as gunners' mates, petty officers, and many of them take the examination for officers, which compensates for the care and the expenditure on them. We have a law by which a few men can become officers. They first become gunners' mates, then if excellent all-around men they can become ensigns in the line of promotion, and a good many of them do come from that class and the machinists' school, which I will mention later, from which we get practically all of those who come in as officers.

Representative HUGHES. Some of that training would even be beneficial to a boy who had graduated at the Naval Academy?

Commander BRITTAIN. Yes, sir; that practical part of it would be, and it is a pity that there is not room, you might say, for a man to have all of the practical and all of the theoretical knowledge, but

there are so many things. Of course a good officer, that is one thing; he must be an expert engineer, but he could not possibly become as expert with his hands in engineering as in ordnance and in other things as those men who do nothing else but that. So, while he is theoretically more proficient than they are, in many things they doubtless surpass him, particularly as he gets older, because he gets away from the details and becomes more efficient in the general handling of the ship, keeping her in efficient condition and coordinating all of the other parts than going into detail. These are men who run the details of their own specialties. I will take this up again.

Question 2. "How many of the enlisted men are taking any of the following correspondence school courses: (a) General education; (b) Commercial education; (c) Industrial and trade education?"

I am sorry we were not able to get the exact data on that. I telegraphed to the International Correspondence Schools at Scranton, which is the largest one, and which undoubtedly has most of them, and they said they had enrolled up to January 1, 1914, 8,125. That school has been running 21 years, and while the Navy 21 years ago was comparatively small—about 10,000 men—now it has about 53,000, and it is reasonable to suppose that 8,000 for 20 years would give an average of 400 a year. It is reasonable to suppose there are a great many more now than there were in the first year of the school, so I feel sure there are about 1,000 who are taking correspondence-school courses. On board ship in this general educational scheme an officer is detailed to take care of those men who are taking correspondence-school courses and assist them in their work, so they have the assistance of their educated officers, in addition to the pamphlets they get from the correspondence schools.

Mr. WINSLOW. He is not a petty officer?

Commander BRITTAIN. No, sir; he is a commissioned officer.

Mr. WINSLOW. The correspondence school does not have any supervision over the men on board ship?

Commander BRITTAIN. None at all. It has no agent there; it is what its name implies. They send out pamphlets on electricity or mechanical engineering, as the case may be, and the man ferrets it out. He is given an examination, the papers for which they send back to him after having marked them, and the man is assisted in it by the officer on board.

Mr. WINSLOW. The men pay for that themselves?

Commander BRITTAIN. The men pay for that themselves; that is entirely a personal arrangement. The Navy Department has not a thing to do with it, except that it has recently directed an officer to assist the men on board ship.

Mr. WINSLOW. There are visitations from the agents on board, to see that the work is carried out?

Commander BRITTAIN. There is regular correspondence.

Mr. WINSLOW. There is a visitation occasionally from the agent of the correspondence schools?

Commander BRITTAIN. In a general way only. For instance, the agent comes on board and says to a man, "How are you getting along?" and perhaps asks him if he could not find another student. I do not know about that.

Of this 8,125, divided into classes (*a*), (*b*), and (*c*), it is classified as follows: (*a*) 1,891, (*b*) 2,232, and (*c*) 4,002; that is, the trade part of it predominates, being one-half of it.

Question 3. "How many enlisted men are serving in the Navy?"

On Saturday, when this was compiled, there were 53,400 in the Navy proper and nearly 10,000 in the Marine Corps. So far I have not mentioned the Marine Corps. They are organized and run in a little different way from what our sailors are, but they have this same order I have referred to, which directs them to take up and carry out in the same manner the schools in barracks and on board ship, so those 10,000 marines are having the general educational advantages that the men of the Navy have. Of course, they have no firemen and machinists, and oilers and water tenders, and all that sort of thing, and the technical opportunities will not come to them, because they will not be interested. They are soldiers proper, although anyone who wants to do it has a perfect right to do so, and will be encouraged and given facilities.

Mr. WINSLOW. Is that school down at Hampton a school for the Coast Artillery entirely different?

Commander BRITTAIN. Yes, sir; it is an artillery school.

Representative FESS. What is the average length of time a seaman stays in the service?

Commander BRITTAIN. They enlist for four years. Unless the man runs away and deserts he stays for the full four years.

Representative FESS. No one stays longer than that?

Commander BRITTAIN. Oh, yes, sir. The figures I could not give you right now, but I could easily incorporate the figures in my statement, giving the figures of men that have served two enlistments, or 8 years, three enlistments, or 12 years, the number growing smaller as they go up.

Representative FESS. My question is, how many would go out after they get this training and for which they have served?

Commander BRITTAIN. Quite a large percentage go out.

Mr. WINSLOW. It is not true that 45 per cent desert, according to Collier's Magazine?

Commander BRITTAIN. No; about two and one-half is about how many serve.

Question 4. "How many men are taking either of the following courses in classes supported by the Navy Department: (*a*) General education; (*b*) commercial education; (*c*) industrial and trade education?"

Answer (*a*). Statistics are not at hand giving the actual number, but the general order above referred to requires all men who have served less than two years to take in part or whole, as they may require, the general education outlined in the general order. That is, including those newly enlisted and at the training station. There are about 18,000 men in the service who have not served two years.

Representative HUGHES. Are all of them required to take that course?

Commander BRITTAIN. Yes, sir; they are required to take it.

Mr. WINSLOW. May I ask you a question along there?

Commander BRITTAIN. Yes, sir.

Mr. WINSLOW. Do you not think with the introduction of this new scheme of education by Secretary Daniels that you will eventually take over the work that is being done by the correspondence schools?

Commander BRITTAIN. Yes, sir; I do. I think it very largely will displace it.

Mr. WINSLOW. This will finally eliminate it?

Commander BRITTAIN. As I told you, it is rather difficult, even with the equipment the Navy has, to immediately start such a broad system such as Secretary Daniels has wished to start. We find our own professional books are inadequate. There are many of them that could be improved, and a good many are needed that do not exist. I think it will surely cause a large falling off in the correspondence course schools, because the men have to pay for that, and it is only a question of a short time, within a year, until we will begin to produce books better suited to the men's needs than what the correspondence school does.

Commissioner CLAXTON. What is the nature of the work of the correspondence schools?

Commander BRITTAIN. It covers a wide variety, sir.

Commissioner CLAXTON. Is it technical?

Commander BRITTAIN. Technical and general. For instance, in 8,000 we find 2,000 took general and 2,000 took commercial, and 4,000 took trade and technical. There are 18,000 compulsory taking this general education. Undoubtedly there are many others who have served more than two years who desire to take it and are permitted to do so. I feel safe in saying that probably 30,000 men are taking some part of the general educational work.

Answer (*b*). The Navy maintains two classes, covering commercial education, known as yeoman classes, yeomen in the Navy doing clerical work. There are in attendance at these classes 130 men. The work is briefly described in the attached pamphlet above referred to. Men desiring it are facilitated on board ship in acquiring commercial education and there will undoubtedly be a larger number availing themselves of the privilege.

Answer (*c*). Industrial and trade schools are conducted at shore stations, as outlined in the attached pamphlet, on pages 12 to 16. The number attending each of these classes is as follows:

Electrical schools	210
Musicians' schools	100
Hospital Corps training school	100
Artificers' school	75
Seaman-gunners' schools	200
School for machinists' mates	200
School for cooks and bakers	125
Mess attendants' school	25
Total	1,035

There is a school for machinists' mates at the navy yard, Charleston, S. C. They only allow men to got to that school who are in the last year of their enlistment, or who have reenlisted, and if in the last year of his enlistment he must declare he will extend his enlistment two years; that is, we keep him there 16 months, and we do not want him to make it a stepping stone to get out. It is a splendid mechanical and engineering school, and a man leaves there well equipped for running the complicated engines of the man of war. So we have required those that go there, if in the last year of their enlistment, to agree to stay two years longer.

Representative FESS. Is this industrial education confined to the shore?

Commander BRITTAIN. It has been until now, but now we extend it on board ships as far as facilities permit. For the education of the men on board ships we have machine shops and facilities and officers to do it, and after a man has done it he will get his advancement. If a man was not an engineer but wanted to take an engineering course, he is permitted to do so—not only authorized, but if he expresses a desire he is put into a class of about his average and carried along one step further in different branches of the work. That is Mr. Daniels's new system. This school I speak of now at Charleston was for the benefit of the Navy more than for the men. Mr. Daniels has now extended that so the man himself would feel, "Well, I am not going to enlist, and I can learn a great deal on board ship, and I shall put myself in this class," and he is carried on so far as facilities on board permit.

Representative HUGHES. Where is that school?

Commander BRITTAIN. At Charleston, and there are 200 men there. There are schools for cooks and bakers, one at Newport and one at Mare Island.

There is a mess attendants' school or waiters' school—they are colored boys. They are taught how to wait on the table; they are servants. They care for the officers' clothes, and know if a uniform is full dress or undress, what garments to lay out; and they black shoes.

Mr. WINSLOW. I visited that school, Mr. Commander.

Commander BRITTAIN. Did you?

Mr. WINSLOW. Yes.

Commander BRITTAIN. In addition to these, there is a fuel-oil testing plant at Philadelphia, at which about 30 men are kept under instruction for the purpose of testing fuel oil and becoming familiar with its use. A very large number of men on board ships will avail themselves of the opportunities for industrial and trade education which are offered on board.

We have a great many requests to know what results are obtained at those schools, and we do not give them out to foreigners, because they are not always obliging in giving us information. So, we turn down a great many requests that come, because it is not a matter widely known.

Question 5. "What is the educational status of men who present themselves for enlistment as to (*a*) general education, (*b*) commercial education, (*c*) industrial and trade education?"

Of 2,579 men recently enlisted who are now under training at the training stations only one man had never attended school.

I will ask you to bear in mind the total number 2,500, and then the figures as I read them. I think the figures really represent more than percentages.

The others had completed school as follows prior to enlistment:

First grade, grammar school	3
Second grade, grammar school	33
Third grade, grammar school	74
Fourth grade, grammar school	203
Fifth grade, grammar school	273
Sixth grade, grammar school	360

Seventh grade, grammar school	514
Eighth grade, grammar school	541
First year, high school	223
Second year, high school	161
Third year, high school	83
Fourth year, high school	65
Entered college	28
Business schools	17

In answering (*b*) and (*c*), as to commercial and industrial education, of the number given 92 took commercial and trade courses—we only have their word for that; they said they had taken the courses—and 370 started to learn their trade, when they enlisted.

I was not surprised at that, because we have known we were getting a very good class of men, but when you find that one-fifth—and these are the general run of the enlistments. All that are enlisted from Chicago and around the Middle West and all of our Southern States and the eastern coast States are sent there. We have one other station that I did not telegraph, for no other reason than that it was remote, and that at Mare Island, which takes the boys of the west coast, Denver, and the vicinities closer to that; but that represents the 2,500 men that are latest enlisted, and I think with 540 of them high-school boys and 514 having finished seventh grade grammar school would make nearly 1,000 seventh and eighth grade boys, indicates they are not hopeless by any means.

Mr. WINSLOW. Has not the character of the men who enlist changed very materially in the last 15 years?

Commander BRITTAIN. In the last 15 years materially, very. I came into the Navy 30 years ago. The change from then until now has been very marked, as I have seen it develop.

Representative FESS. Do you not think this inauguration will also increase that?

Commander BRITTAIN. Yes, sir.

Question 6. "Is there any differentiation as to the terms of enlistment as between those who intend to take up educational courses in the Navy and those who enlist for the usual period?"

The answer to this question is no.

Mr. WINSLOW. I think we had in mind, perhaps, there might be some difference in the electrical schools, for instance, your school at Brooklyn Navy Yard.

Commander BRITTAIN. Yes, sir.

Mr. WINSLOW. I have been told that the first three months' period is a probationary period, and if the enlisted boy did not prove successful that he then could cancel it and go out of the service.

Commander BRITTAIN. No, sir; they enlist for the four years. As I say, now, generally, but without applying it to any particular school or branch, we are making it so that if the boy is dissatisfied and wants to get out—whether the man enlisted for one, two, or more years, that makes no difference; it is a question of his own dissatisfaction. For instance, at the training schools, where they are kept four months there are some badly dissatisfied ones among the youngsters, and we let them go by special order of the Secretary.

Representative FESS. I am interested to know, Mr. Commander, what the reason is for being lenient in that respect.

Commander BRITTAIN. There has been, as you know, a good many desertions, and if you keep a man who is dissatisfied, he not

only is no good himself—is not efficient, grouchy, and all that sort of thing—but he contaminates others. The Navy also, now, is enlisted up to its full strength, and irrespective of this little excitement we have now, for weeks we have been curtailing enlistments, making the selection of the men as to physical requirements, etc., more difficult. We can afford to let the dissatisfied ones go, feeling sure we will get other men as we need them. We make this condition: When a man enlists he is given a clothing outfit that costs $60. If he leaves within six months we make him refund that amount, so the Government loses nothing except the cost of his maintenance.

Question 7. "What is the general character of these courses of instruction in industrial and trade subjects? (*a*) What is the length of the courses? (*b*) For what purposes or trades is preparation given? (*c*) What subjects are taught for each trade?"

That I have covered pretty thoroughly in the little pamphlet.

Question 8. "How is the training on board ship and in navy yards supervised? (*a*) Under whose immediate charge in the Navy Department is the work centered? (*b*) Who is in charge of the work on board ship? (*c*) Who is in charge of the work when given in a navy yard?"

Answer. (*a*) The officer of the Navy Department having immediate charge of the work is the Chief of the Bureau of Navigation, the assistant to the chief of bureau advising as to many details; that is, myself.

(*b*) On board ship the commanding officer is primarily responsible; that is, if the school is not well conducted on board ship he is to blame for it; he has the authority and the means. He does not have to teach himself, of course, but he is required, as the principal of a schoo , to see that the work is carried on in accordance with the general order. But the executive officer, second in command, is particularly charged with the general execution of the work; that is, this executive officer executes, as his name implies, all of the details, and instead of the captain having to go and look after this and that, he says, "Mr. so-and-so, this is to be done." They discuss it and the plan is drawn up, and this younger man with his assistants draw up all the details, which the captain approves and sees it is carried out. The instruction itself is carried on by the division officers, warrant officers, and petty officers, at least one of whom has charge of and is responsible for a group or class. The ship is divided into so many gun divisions. An officer has charge of two 12-inch guns, with about two officers and 60 men—one experienced officer and one very young officer—so these division officers, including the paymasters and the doctors, are the actual instructors, assisted by the gunners, carpenters, and those skilled in the trades and the technical men, who assist them; and in the engineering branches, by the machinists. An officer is in charge of every group or class of men. He may have petty officers, some of these bright high-school boys take the question of mathematics for his duller mates, but an officer himself is present and superintends and actually does a large part of the teaching in every branch.

Mr. WINSLOW. But the trade education is given by enlisted men who know the trades?

Commander BRITTAIN. Yes, sir.

Representative FESS. And this inauguration has not increased the demand for more men to do these things?

Commander BRITTAIN. No, sir. You see, the large ships—I referred to one of them—counting the gunners, carpenters, and machinists, have 40 officers, and each ship has about 1,000 men. Of course many of them are these older men that are not required to take education. Say 600 or 700 are taking it and there are 40 officers to the 600, which gives quite a good proportion of teachers.

Representative FESS. Is there any added expense required of the men?

Commander BRITTAIN. No, sir. The men are required to buy the books. The department already has spent about $2,000 in getting some books put out immediately, so as to get the spirit of the thing going during the time it would take to select books and get them in larger numbers. We have an appropriation for equipment of vessels, out of which we supply libraries, and we could supply that many books without asking for any advance or without curtailing the other necessaries.

Representative FESS. And that pays the teaching force?

Commander BRITTAIN. The officer does that as a part of his duties.

Commissioner CLAXTON. These teaching officers are all Annapolis men?

Commander BRITTAIN. I say of the 40, all of those are line officers. Then, there are the doctors and paymasters, and a few might be ensigns or lieutenants who have come in from the ranks, as I explained.

Commissioner CLAXTON. If this is continued, then, the men at Annapolis when they enter the service will practically all be teachers, will they not?

Commander BRITTAIN. Yes, sir; and part of this order or a later one pertaining to it has directed that before graduation at the Naval Academy they be given a short normal course, consisting of lectures.

Commissioner CLAXTON. I was going to ask if that was done.

Commander BRITTAIN. Yes, sir; they will be given in the form of lectures, a short normal course that would acquaint them with the methods of teaching.

On board ship, under this new scheme, 1.15 to 2.30 is set apart every day in the week. I have had some letters from men and some officers and some from the mothers. One woman wrote she had three sons in the Navy, and they were much put out because of having to attend school on Wednesday afternoon. Wednesday afternoon has been a holiday, and the men have been in the habit of going ashore at the end of the day's work. They like to see baseball games, and naturally to have to stay one and a quarter hours for school does not appeal to them; but until it is thoroughly incorporated we are not making any changes in the program.

Question 9. "To what extent are apprenticeship courses given in navy yards?"

Answer. We do not apprentice any of them at all; there are no courses of that sort.

Question 10. "In what specific trades or callings are apprenticeship courses given?"

Answer. None.

Question 11. "What plans, if any, has the department for the extension of this work?"

Answer. The general educational work and the facilitating of trade and vocational work on board ship has just begun, and the work will be extended and developed. To what extent this will be done can not at present be foreseen. The men are not required to study algebra, geometry, or physics or chemistry. To what extent they will want to take that up we do not know. Probably only a few; but, as far as they want to go, it will be done, as long as they stick to elementary things. Of course, we could not engage to carry on what would be considered too abstruse. The teacher, for instance, has many hours of other work that he must attend to, so that when you get beyond things comparatively easy for him to handle we are getting beyond our depth.

Question 12. "Does the department need information concerning occupations, trades, and callings for use in the advancement of these courses formed and to be formed?"

Answer. No; our activities themselves bring in so many occupations that if we handle those well there is no need for us to go out for any we are not now brought in daily contact with.

Question 13. "A statement of some information which is desirable that could be furnished by other departments of the Federal Government, which is now being gathered in part, is attached hereto and marked 'Exhibit A.' Would such information, or similar information, be of value in the industrial and trade education work in the Navy?"

Answer. No.

Question 14. "Is the Navy Department in a position to furnish, within the next 10 days, a statement to be incorporated in the report of the commission describing the present and proposed activities of the Navy in promoting the education of its enlisted men, and, in addition, what additional appropriations to the present budget does it need for the promotion of this work?"

Answer. This communication may be considered a statement to be incorporated in the report of the commission if it so desires, and it covers briefly the educational activities of the Navy as far as relates to enlisted men. I have not touched at all upon the officers' education, as there were no questions asked upon that.

Commander BRITTAIN. No additional appropriations to the present budget are required for the promotion of this work.

These data were prepared for Mr. Daniels's signature, and he glanced through it hurriedly; said that he wished to speak to me about a paragraph before I came here. I was not able to get to him, and so had to come without having his signature. I have made my hearing mainly upon what is dealt with there, and if the commission desires and has any suggestions to make toward elaborating what is there, I will be very glad to take the matter up with Mr. Daniels, and feel sure he will extend it; or I will send copies of this as it is to as many members of the commission as you desire, with each of these little books that it refers to.

Representative HUGHES. I should think members would like to have that.

Miss MARSHALL. I should like to inquire if any of the other pamphlets are available, such as First Aid?

Commander BRITTAIN. Yes.

Miss MARSHALL. We could obtain them, could we?

Commander BRITTAIN. Some of them. We are not, judging from the hearing that I just heard, prepared like that department is for distribution of documents. We have to pay for all that we make out of a very limited printing fund, so that we guard very carefully against what might be termed general distribution, because you can readily understand that the demand would be so great that we could not meet it.

Miss MARSHALL. I mean, obtain copies for the use of the commission only.

Commander BRITTAIN. Yes; that could be provided.

Mr. WINSLOW. Would you feel any pleasure in amplifying the document you have just read? Would you like to give us any more information than we have asked for?

Commander BRITTAIN. I do not recall anything, sir. I have rambled, perhaps, a little in what I have said and gone outside of the strict line of what was called for, but it appeared to me the questions, by whomsoever they were prepared, were very well gotten up, and called for just data that were wanted and not to invite very much more.

Mr. WINSLOW. We have in mind that there was an attempt some two or three years ago to establish an apprenticeship system in the Navy. We know of an attempt made at Charlestown Navy Yard, Boston.

Representative HUGHES. Apprenticeship?

Mr. WINSLOW. Yes; and some sort of a cooperative plan down at Newport News.

Commander BRITTAIN. I think that would have referred to civilian labor.

Mr. WINSLOW. It would have?

Commander BRITTAIN. Yes, sir.

Mr. WINSLOW. It came through your department—the request to establish a comprehensive system for plumbers and boiler makers and carpenters, etc.

Commander BRITTAIN. It dealt only with enlisted men of the Navy. I did not understand that it dealt with the navy yards, which have civilian labor. We, of course, pay them, but we have nothing to do with the education of those men.

Mr. WINSLOW. You would view with some pleasure an attempt and you would encourage some effort of that kind?

Commander BRITTAIN. Yes, sir.

Representative HUGHES. The time has arrived for Mr. Fess and myself to attend the meeting of the House, and I assure you we have been most interested and highly entertained by the representations you have made to-day.

Commander BRITTAIN. I am glad you were. This is my first attempt at a hearing in this capacity.

Representative HUGHES. It shows you will equip your men well for their duties.

Mr. LAPP. With the development of trade education, is it likely that the material in the library will be developed along that line also?

Commander BRITTAIN, Yes, sir. We have taken that up now. One thing brings up many things. We have taken up the question

of libraries, and probably quite radical changes will be made in the class of books we will furnish. We have put on board an excellent technical library for officers, going into engineering, textbooks in themselves, though we have heretofore confined it more to interesting matter. Of course, instructive as well as interesting, as most good books are, but not technical; but unquestionably there will be large additions to that part of the library.

Mr. LAPP. It is probably feasible?

Commander BRITTAIN. It is feasible.

Mr. LAPP. Trade magazines, and trade publications of all kinds will be introduced?

Commander BRITTAIN. Yes, sir.

Mr. WINSLOW. If there are no other questions that the members of the commission would like to ask the commander, the commission will now stand adjourned, to meet to-morrow, April 22, 1914, at 10 o'clock a. m.

Thereupon, at 12.45 o'clock, p. m., the commission stood adjourned to meet to-morrow, April 22, 1914, at 10 o'clock a. m.

STATEMENT OF MR. CHARLES H. VERRILL, CHIEF EDITOR OF THE BUREAU OF LABOR STATISTICS.

WEDNESDAY, APRIL 22, 1914.

SENATE OFFICE BUILDING, *Washington, D. C.*

Pursuant to adjournment, the commission met at 10 o'clock a. m.

Present: Mr. WINSLOW (presiding), Mr. LAPP, Miss MARSHALL, and Miss NESTOR.

Mr. WINSLOW. Mr. Verrill, a list of questions has been submitted to you, I believe, and we will ask you to take up those questions in their order and answer them as you may desire.

Mr. VERRILL. The first is: "What is the Bureau of Labor Statistics doing to promote industrial and trade education in the United States?"

The Bureau of Labor Statistics is doing nothing which it looks upon as a work of promotion directly in the interests of industrial and trade education in the United States. The work of the Bureau of Labor Statistics, as we look upon it, is not that of promotion in the sense of propaganda. We do not attempt to promote particular movements or measures, but rather to collect information, to study existing conditions, and to publish as widely as possible the results.

Inquiry No. 2 is: "What methods and devices is it using in promoting this education?"

That inquiry is covered, I believe, in my answer to No. 1.

Inquiry No. 3: "What information concerning trade and industries and trade and industrial processes and problems is it furnishing for use in industrial and trade education in the United States?"

The information which the Bureau of Labor Statistics is at the present time furnishing concerning trades and industries and trade and industrial processes and problems for use in industrial and trade education consists of reports already published, devoted to industrial and trade education. It consists also of other reports containing a

large amount of information useful for the purposes of industrial education, but collected chiefly with another purpose in view. An example of this would be its investigations of wages and hours of labor and working conditions in various occupations and industries.

Question No. 4: "What facilities has the bureau at the present time to furnish information for use by the schools of the country in giving industrial and trade education?"

The facilities of the bureau at the present time consist of the published information available for distribution and naturally also a large body of information and experience which may be drawn upon to answer specific or general inquiries which come to the bureau in the course of a large correspondence. Many of the studies and investigations which the bureau is carrying on furnish much information of special value in connection with industrial education when such material is studied and properly interpreted with reference to such use. In connection with its library the bureau aims to collect all publications in this country or abroad which have a direct bearing upon strictly industrial education. The facilities of the bureau are inadequate in that the force of special agents at its disposal does not permit permanent assignments in this field of work.

Question No. 5: "What are the sources of information and the methods and devices whereby the Bureau of Labor secures this information, either directly or as a by-product?"

The bureau secures its material in regard to industrial and trade education directly from school officials, employers and employees, and through personal visits of its agents. Practically none of this information is secured by correspondence, as such a method has usually been found wholly unsatisfactory. Much information is also secured as a by-product of studies and investigations relating primarily to subjects other than industrial education, information of value being especially available with comparatively little additional work in its studies of wages and working conditions in particular occupations and industries.

Question No. 6: "What, in your opinion, is the place and relationship of the Bureau of Labor Statistics and the Bureau of Education in the gathering and the use of information concerning the trades and industries for use in industrial and trade education?"

The place which the Bureau of Labor Statistics has occupied in the gathering and the use of information concerning the trades and industries for use in industrial education is best indicated by publications already issued. Those bearing directly on the subject are its Eighth Annual Report, issued in 1892; its Seventeenth Annual Report, issued in 1902, a considerably larger report and more largely the result of investigations of its agents, covering European countries as well as this country; a special study issued as a part of the bulletin prepared especially for the St. Louis Exposition on trade and technical education in the United States; and its Twenty-fifth Annual Report, issued in 1911, covering industrial education in the United States at that time. This first report, I might say, defines industrial education rather more broadly than the later ones, in not confining itself to industrial education strictly speaking. The manual training schools were included as well as the industrial schools. That definition was not followed in the last study, where industrial

education was strictly defined. In this last report also special attention was given to the industrial side of work of the schools and the application to the vocations of the various kinds of instruction given.

In the present developing state of industrial education it is regarded as particularly important that this study of the work of the schools in their efforts to serve industrial workers and the industries should be carried on continuously. The study of industrial education from anothe point of approach is equally important. The requirements of the various occupations in industry should be carefully analyzed in order that, as far as possible, the teaching and practice in the schools may serve the greatest usefulness. This kind of investigation calls for a thorough knowledge of the work of the occupations and an understanding of the points of view of both the worker and the employer. Such study can best be done in connection with investigations such as the Bureau of Labor Statistics is constantly making. In fact, the opportunity to make such studies would hardly be afforded in any other way. Any attempt to make such studies independently would necessarily result in much duplication of work and an unsatisfactory result.

Miss MARSHALL. I would like to ask one question on your answer to question 6. The information which you collect there is directly usable, is it, by the Bureau of Education?

Mr. VERRILL. It would be directly usable by any agency.

Miss MARSHALL. It is in such form that it can be used by them?

Mr. VERRILL. Do you mean the raw material?

Miss MARSHALL. Yes.

Mr. VERRILL. I should say that no information in its raw state, as collected by special agents or experts, would be usable by another bureau. It would have to be thrown into the form of a report before it would be usable by another bureau. It simply could not be interpreted; and that I would make as a broad statement and not simply with reference to industrial education, but with any and all of the materials that the Bureau of Labor Statistics collects, or with any material that I ever saw collected.

Miss MARSHALL. But in collecting this material concerning the trades and industries, if thrown into a formal report, is it directly usable by the Bureau of Education for formulating courses and that sort of thing?

Mr. VERRILL. Yes.

Mr. LAPP. I suppose in making a study of a subject you get a lot of information as a by-product which would not be information which you would have any intention of publishing, but which you wanted just because it could be gotten easily and could be of service, perhaps, to the Bureau of Education or some other department. If so, could not that in any form be made directly serviceable without the formation of a report?

Mr. VERRILL. There would be some material of that kind. It would be possible to get material of that kind.

Mr. LAPP. If you started out on a determined plan, and got information that would be directly related to the schools of the country in the teaching of these industries, as a by-product to some other investigation you are making, could not a plan be worked out by which that could be directly available to the Bureau of Education?

Mr. VERRILL. Yes; except in so far as you refer to schools. I can think of no investigation that we might make where information with regard to schools would be a by-product.

Mr. LAPP. I was not thinking of special schools. I was thinking of investigations to determine what are the grades of employment of a particular industry or trade, and what are the particular opportunities.

Mr. VERRILL. Yes; but that would not be, strictly speaking, a by-product—that is to say, the by-product would be too crude, unless it was worked out, to be of much use to anybody.

Miss MARSHALL. But it could be collected?

Mr. VERRILL. Yes; it could be collected.

Miss MARSHALL. I think that is frequently the difficulty. A good deal of information is collected about an industry, and yet there is nothing that an educational institution could use because it does not get the sort of information that is of use in the formation of school courses.

Mr. VERRILL. No; it is not analyzed in the right way.

Miss MARSHALL. It is not analyzed and worked into a course. I was wondering if the bureau did or could do that sort of thing?

Mr. VERRILL. The bureau is undertaking to do something in that line in its investigations of wages and hours of labor and conditions of work. It makes such studies of industries regularly and publishes the results annually. We thought it necessary to go into the character of the work and the occupation in order to make the report complete; that is to say, we are not satisfied to study the wage, but we want to be able to state also the work the wage pays for, and so we must describe it because it changes from year to year, and possibly a man who is doing work in a certain occupation this year is doing work under the same designation five years hence, but it may be totally different work.

Mr. LAPP. That information you gather concerning the changes in industry?

Mr. VERRILL. Yes.

Mr. LAPP. In what form could that be best put out, so that the schools which teach along those lines would not be teaching those things that are obsolete?

Mr. VERRILL. It would call for the analysis of the processes of an occupation in such a way as to develop those facts. A mere description, without thought of that use, would be unsatisfactory. The thought of use would have to be put into the description so that the analyzed description would show just what the work of the occupation requires, all the kinds of training it required, and what kind of intelligence it required.

Mr. LAPP. After you have gotten that knowledge of the processes, the methods of teaching it in the schools would be furnished by your bureau, or could you furnish it?

Mr. VERRILL. I should say that the methods of teaching could not be furnished by any bureau. The methods should be furnished in this way: By finding out what methods are employed actually, and making a study of the successes or defects of those methods—that is to say, no person should set himself up as a theoretical critic, but should study the application of the methods and find out what they are accomplishing.

Mr. LAPP. Suppose we had an industry in which nothing had ever been done in the schools to aid in educating at all along that line, then we have to devise some method. I suppose probably nine-tenths of the trades and occupations have never had any experience in knowing what ought to be taught, nor how to teach it.

Mr. VERRILL. And it would be with just that purpose in view that an analysis of the processes would be necessary in order to see what things were called for in the work, in order to discover the processes of an occupation, and then find out how those processes could be taught or how some instruction could be given that would fit a man better for learning those processes in the shop.

Mr. WINSLOW. The supplying of information to check up with short unit courses?

Mr. VERRILL. Yes; the short unit course is merely throwing into a course the brief training necessary to teach the processes or parts of the occupation. The work must be studied and analyzed in the shop in order to get that information, and that would be the kind of information that these school men could not very well secure.

Mr. LAPP. Could probably not do it at all effectively?

Mr. VERRILL. No.

Mr. LAPP. But in giving out information to the schools to be used generally by the schools as to methods of instructions in school work, would that follow directly from the work or would it be possible to work that material up from the standpoint of education, perhaps by the Bureau of Education?

Mr. VERRILL. I should say it should be worked up completely by the agencies gathering it. I do not think it can be worked up satisfactorily in any other way. Of course there would be limited kinds where it could be worked up, but generally speaking it could not be done except directly by the agency collecting it.

Mr. LAPP. Would you think you should make the direct application of it to the methods of instruction themselves?

Mr. VERRILL. Not that way. We should cooperate with the schools in working it up. We should furnish them all the assistance we could in working these schemes out. That is what has already happened in some industries. There are some plans that have been worked out in New York recently that I regard as the direct outcome of our investigations into the industries. I will show you some charts illustrating that a little later.

Inquiry No. 7 reads as follows: "To what extent has the Bureau of Labor Statistics gathered and furnished to the country in the past information concerning industrial and trade schools?"

The extent to which the Bureau of Labor Statistics has gathered and furnished to the country in the past information concerning industrial and trade schools has already been indicated in the reference to its publications under question 6. Answering the question in another way, it may be stated that the Twenty-fifth Annual Report was distributed—I think the distribution was begun late in 1911—to the extent of about 7,500 copies. The first edition is now exhausted and the demand on the bureau is for about 10 copies a week pretty regularly. Of course it varies somewhat, but it is fully up to that, and we are having a reprint of 500 copies made to meet that continuing demand.

Miss NESTOR. Will those copies be free?

Mr. VERRILL. Oh, yes; reports are free.

Mr. WINSLOW. Whenever the bureau has copies of those things they are free.

Mr. VERRILL. You can get them from the superintendent of documents when our supply is exhausted. That report sells for about 70 cents through the superintendent of documents. If we do not order any more copies it is simply that we do not feel that our funds will stand it. Personally I do not believe the small edition of 500 will be adequate, unless the report can be done over and a new edition issued.

Inquiry No. 8 reads as follows: "What plans, if any, has the bureau for the gathering and publishing of information of this kind in the future?"

The bureau has not planned for the coming year any comprehensive study of industrial education, bringing its Twenty-fifth Annual Report down to date, although such a study would be warranted by the progress of the movement since the date of the former report. Such an investigation, however, would call for funds far beyond the facilities of the bureau during the coming year. Its plans for work during the coming year provide for a considerable amount of material having a less direct relation to industrial and trade schools. Its studies already completed or underway, and its plans for work during the coming year, include the following, related directly or indirectly to industrial education:

A study and analysis of occupations in the dress and waist industry, with special reference to the requirements and possibilities of industrial education, to be published in Bulletin 145 of the Bureau of Labor Statistics.

A similar study of occupations in the cloak, suit, and skirt industry, an apprenticeship plan for cutters, the creation of a commission on industrial education in January, 1914, and a plan for part-time and factory schools, to form a part of Bulletin 147.

A study of the employment of women in the boot and shoe industry of Massachusetts, with special reference to the opportunities in the industry, and the requirements and possibilities of industrial education.

A study of dressmaking as a trade for women, based on a study of earnings for a year and the requirements of the work.

An industrial survey of Richmond, Va., especially for the purpose of industrial education. This investigation is one in which the Bureau of Labor Statistics is cooperating with other agencies.

Methods of hiring, promotion, and discharge of employees in certain occupations.

A study of the requirements of the various occupations in connection with the bureau's regular investigations of wages and hours of labor.

Miss MARSHALL. May I ask a question right there?

Mr. VERRILL. Certainly.

Miss MARSHALL. The method of the bureau, as I understand it, is to cooperate with other organizations that are making studies, to publish them. Is that correct?

Mr. VERRILL. Not exactly. We are cooperating in making investigations, in planning and making investigations.

Miss MARSHALL. What as to the study of dressmakers?

Mr. VERRILL. We cooperate in making the study, and we are publishing the results——

Miss MARSHALL (interposing). Is not that the Boston one?

Mr. VERRILL. No; the Boston one is a study of the dressmaker.

Miss MARSHALL. That is what I meant. Are you cooperating in making that study also?

Mr. VERRILL. The study is completed and in hand, just being put in final shape for publication.

Dr. ROYAL MEEKER (Commissioner of Labor Statistics). I do not think you have answered Miss Marshall's question. I think she wanted to know whether we cooperate in making the study.

Miss MARSHALL. Yes.

Mr. VERRILL. Where we can utilize the study, we cooperate. If the methods and results are satisfactory, we cooperate.

Dr. MEEKER. If one knows of a very good study that is being made, it is worth while to the Bureau of Labor Statistics to get it published.

Mr. VERRILL. Oh, yes.

Dr. MEEKER. They do that?

Mr. VERRILL. Of course, in such a case we make ourselves responsible for the methods and form of the report.

Miss MARSHALL. You have to approve it?

Mr. VERRILL. We do not simply approve it; we go over it as a whole.

Dr. MEEKER. A good many studies are presented that are not published.

Miss MARSHALL. I was wondering if there was not some way that that could be done. When a study is made by a person or organization other than the Bureau of Labor Statistics, if there was cooperation, might not that avoid waste? I personally know of a good many studies that have been made that no one is profiting by. Had the Bureau of Labor Statistics known in the first place about them, and if there had been cooperation with the Bureau of Labor Statistics, they might have adopted the standard of the Bureau of Labor Statistics, and so have been of far greater value.

Dr. MEEKER. We are trying to reach out and cooperate everywhere possible.

Miss MARSHALL. The country needs those studies badly, I know.

Dr. MEEKER. We are trying to reach out in every possible direction.

Miss MARSHALL. I was wondering if there was a way of letting people know of the desire of the bureau to cooperate in this way?

Mr. VERRILL. There are studies made that are submitted to us from time to time that are worthy of publication by no one. They are of use only to the person who has gained experience in making the studies, and sometimes that is not a very valuable experience.

Dr. MEEKER. The experience is merely incidental.

Mr. VERRILL. You might say all the degrees of doctor of philosophy that are granted are based on studies that are made. Many of them would be applicable to the work of our bureau, but are not up to our standard.

Miss MARSHALL. My point would be this: If, in starting to make a study, there were not some way of knowing that if it were made along a certain line, it would be of some benefit and that it might be

published by the Bureau of Labor Statistics if it came up to the standard set by them, my inquiry is, is there any way to let organizations know that they might work in cooperation with the Bureau of Labor Statistics? It seems to me there is a good deal of material that goes to waste because this is not done.

Mr. VERRILL. We could not do it much more largely with our present facilities. Such work as that, or cooperation of that kind, would require a good deal of service from us in the way of counsel and supervision—counsel principally—and we could scarcely give any more than we are now giving. There has been a suggestion within the last year somewhat on the line suggested by you, that the bureau cooperate with some of the universities in the work of their graduate students; that the students be given the opportunity to do work under the direction of the Bureau of Labor Statistics; and that the results be available for us and be credits for the man in his university degree. That thing has been done a little in the past in this way: Some degree studies have been submitted to us which were entirely suitable for our purposes, and we have accepted them and published them. This suggestion is merely that that thing be worked out in a systematic way and a larger use be made of those opportunities. I think it would be entirely practicable, but the difficulty is the same as I have specified. They would call upon us a good deal in the way of counsel and criticism and supervision, and we could not give much more with our present facilities than we are now giving.

Miss MARSHALL. It would be possible, however, if the Bureau of Labor Statistics were equipped to do it?

Mr. VERRILL. Oh, yes; certainly.

Dr. MEEKER. I am struggling with that problem of how to cooperate with the universities to reach these results, which we all recognize as very desirable, but I have not settled the problem yet.

Mr. VERRILL. There is another aspect of the question suggested by that inquiry that I think I ought to mention here. When these private agencies make these investigations, they are oftentimes a nuisance to the persons being investigated, chiefly because they do not know what they want to do. They want to be permitted to learn at the expense of the person being investigated, and it is not too much to say that they are sometimes a nuisance.

Miss MARSHALL. That is true of schools as well as of industries.

Dr. MEEKER. Perhaps it ought to be put in the record that many college professors have acknowledged their inability to guide their students in seeking the Ph. D. degree, especially in the field of labor investigation. They frankly state they do not know enough about it. They are not enough specialists so they can, first of all, select a proper subject for investigation and then give the students the requisite guidance in that subject, and they want my bureau, or me, perhaps, to some extent; but they want the Bureau of Labor Statistics to furnish the subjects and give the guidance. The difficulty has been pointed out by Mr. Verrill. It would be an expensive proposition to us unless we could be guaranteed something like the United States Government is guaranteed—a certain term of service—from the graduates of West Point and Annapolis. Unless we would have

some such guaranty as that it would be an educational experiment and not an experiment in furthering the productive work of the Bureau of Labor Statistics.

Representative Fess (a member of the commission) at this point entered the hearing room and took the chair.

Mr. VERRILL. I have here, Mr. Chairman, several charts that illustrate some of this work. Some of them happen to be in proof, being a part of proof of Bulletin 145. This first one, which I now show you, relates to the dress and waist industry of New York and shows the three features of the agreement, one dealing with disputes which go ultimately to the board of arbitration; another dealing with sanitary control, in the hands of a joint board of sanitary control; and the other, the latest feature, a joint board of educational control. The working out of the details of the organization of this joint board of educational control is illustrated in this chart, which I now show you. [The witness here displayed a chart to the commission.]

Here is another chart [indicating], which shows the financial organization of the same scheme.

Representative FESS (presiding). This is a graphic illustration of what you have been discussing?

Mr. VERRILL. Yes.

Representative FESS. I regret to say that the House went in session this morning at 10 o'clock on the Mexican situation, and it was necessary for the members of this commission who are Members of the House to be present in the House. I did not hear, I am sorry to say, what you had to say on this, but it will be a matter of record, of course.

Mr. VERRILL. Yes. This is a scheme for industrial education that developed right under the hands of the investigators. The investigators have cooperated in it, and in so far as I can see it could not have been worked out without their assistance.

Representative FESS. I regret exceedingly that the very important work of this commission has fallen this week. Last night the Senate was in session and remained in session until 3.25 this morning, and because of that fact I felt justified in being absent from the hearings of this commission last night.

Mr. VERRILL. This chart, Mr. Chairman, shows the organization for the cloak, suit, and skirt industry. That also has been worked out recently. This is obtained by going into the shop and getting together with the employees and employers, the foremen, etc., and studying the exact processes of occupation carried on in the shop, trying to discover what kind of intelligence, what kinds and degrees of skill are required to perform those processes, and with that analysis trying to develop a course of training that will give to the beginners the elements of that intelligence and skill.

Representative FESS. Is it the Department of Labor that goes into the shop?

Mr. VERRILL. Our investigators; yes.

Representative FESS. Your investigators are of what class? Where do you get them?

Mr. VERRILL. We appoint them through the civil service, and then train them.

Representative FESS. You train them at the department here or in some university?

Mr. VERRILL. They are usually university people. They usually have had some degree of university training, but not universally. Probably half of them have it now, but the newer ones coming in are generally some people who have university training.

Representative FESS. The question I want to ask now is not so pertinent to our commission's work as it is to something else in which I am quite interested. Do you have difficulty in finding the people necessary to do the character of work that you want done?

Mr. VERRILL. We do, because you do not permit us to pay enough money, and other departments and bureaus of the Government steal our people—and I use the term "stealing" in an inoffensive way—because you permit them to pay more money, more money for salaries, more money for expenses, and you put limitations upon us that you do not place upon other departments and bureaus.

Representative FESS. Do you mean that your people are taken from you by the other departments, or industries outside over which we have no control?

Mr. VERRILL. My remark referred to the other departments of the Government. They are also taken outside, because we pay such low salaries, such inadequate salaries.

Dr. MEEKER. And also they are taken by State commissions.

Representative FESS. We could not control State commissions.

Mr. VERRILL. No; it is not a question of controlling anybody. It is a question, so far as the Government is concerned, of paying as fair a salary in one place for a certain degree of skill as you do in another place.

Representative FESS. I am not informed on this.

Mr. VERRILL. No; but it answers your question, and that is why I mention it.

Representative FESS. I meant to say I am not informed on this, and therefore I am asking for information. Why is there discrimination made between experts in your department and experts in other departments? Have you any reason for that?

Mr. VERRILL. I suppose probably the fairest way of looking at it would be to say that presumably the people who have to act do not understand the importance and difficulty of our work.

Representative FESS. There is not less work?

Mr. VERRILL. No; there certainly is not less work.

Representative FESS. It is not a less degree of skillful work at all?

Mr. VERRILL. No; it is not less exacting; it does not require less training or preparation. The evidence of it is that other bureaus have taken our people away from us, paying them more than we can pay, under the law, or more than we can afford to pay, under the amount of money that we have.

Representative FESS. That is a very important bit of information.

Mr. VERRILL. I should want to add very emphatically that, generally speaking, these people who have been taken away have not received more than they were worth, as evidenced by what they might get outside.

Representative FESS. I want to know whether the fact that the Labor Department is the newest department would have anything to do with it?

Mr. VERRILL. But our bureau has been in existence since 1884. It is not new at all. Its work is not new. The difficulties of its work are not new difficulties.

Dr. MEEKER. I should say the newest operated rather in the other way, would you not, Mr. Verrill?

(Here ensued informal discussion, which the reporter was directed not to record.)

Representative FESS. Are you accepting university graduates who are working for their doctorate? My inquiry is, whether, from the University of Chicago, for example, a man looking for a particular line of activity touching the labor interests would be sent to the department and employed to do this particular work not only for his benefit—he would not be employed for that—but for your benefit? I wondered whether there is much of that being done. For example, I am the president of a college, and we have a good many people who want to branch out and spend some years in a line of investigation. Is the Labor Department or are the departments at Washington taking such people to do expert work?

Mr. VERRILL. Civil-service examinations are had which give abundant opportunity for such people to get in and get credit for any training that they might have that will be useful. All of our recent examinations for high-grade people have required a certain amount of economic training or certain definite experience, which might be found to be of equal value. That would answer your question in one way. Another way is this suggestion of cooperation with the graduate students in universities, of which I spoke.

Representative FESS. You were speaking of that when I came in.

Mr. VERRILL. The suggestion there was whether it would not be possible for the graduates who were studying for their degrees of putting in a term of service in the Bureau of Labor Statistics, for example, under the direction of the officials there, and with the supervision and direction of the officials, and have that serve, we will say, as a year's credit toward the Ph. D. degree. The question arose whether under those conditions we could make any payment to such a man. It seemed, upon investigation of the law and the civil-service rules, that payments of not to exceed $300 a year could be made in such case—that is, a man not paid in excess of $300 a year can be appointed without civil-service examination. At that rate apparently we could cooperate with those men. Then the difficulty arose that I spoke of when the matter was up before, that such men would require a very large amount of counsel and supervision, if we were going to profit by their term of service or if the bureau was going to get out of their work the kind of results it ought to get, for you could not put them in and have them do routine work to the same extent you could clerical appointees. You have to be sure of their getting a sort of training out of it.

Representative FESS. You have not tried that yet?

Mr. VERRILL No; we have not tried that, but we have had a little experience, because when the investigation of women and child labor was imposed on us it involved the appointment of a large number of people. An examination, such as I have indicated, was held, and I suppose altogether something in excess of 100 men and women were appointed. A very great majority of them were university graduates.

Many of them had done graduate student work, and so we can probably say we have had experience with graduates of the important men's and women's colleges in the country. We know what they can do when they think they are ready to begin to work.

Representative FESS. Is the work satisfactory?

Mr. VERRILL. We get some very excellent ones, and we get some very brilliant failures.

Representative FESS. Is there any way for the department to avoid that?

Mr. VERRILL. No; there is not. There were a number of doctors of philosophy who did not make good at all, and there were a number of people just out of college who did make good in an astonishing way. There were several cases of that kind.

Dr. MEEKER. I think there is a way by which we can avoid taking the college graduates and post graduates who do not make good. I think if we meet them and talk with them sufficiently, we will be able to weed out most of them.

Representative FESS. There ought to be some way or else that affiliation should not be made.

Mr. VERRILL. That affiliation should be handled very carefully, if at all. It should only be for selected people. It should not be a general arrangement, because the Government could not afford to carry many of them. A limited arrangement might be exceedingly profitable.

Dr. MEEKER. I would not think of taking a student on the recommendation of a college professor without personally interviewing him and testing him out.

Representative FESS. There are two reasons for that. The first one is the college professor may not know the requirements. That is a very common thing. The second is that the average college professor forgets your department and the public, and it is a question of giving the fellow in charge something to do. I know that—that is not my experience, but that is one thing I avoid. I do not write general recommendations. I refuse to do that

This is a little afield of our subject, but it is in a field in which I am greatly interested—to know how you get this information and whether this manner could be made generally useful. In other words, I have introduced a bill, and it is before the committee for consideration every week, to establish a national university, in which nobody is to be admitted but post graduates, and providing that they are to render service to the Government in an expert way, subject to the call of the department. I was wondering whether past experience would indicate to the department that they would not want to risk selections.

Mr. VERRILL. Mr. Fess, the Civil Service Commission have held something like 2,000 special examinations in the last year. A very large part of those special examinations are examinations that impose college requirements. You can find out there exactly the particular kind of examinations they held, particular requirements they impose, and why. These examinations are always elaborated in conference with the head of the bureau or head of the division who is going to use the man and who explains exactly what they will require of the men when appointed, and they work all the tests for the examination with those things in view.

Representative FESS. I should think, and I should insist, from the amount of information I have, that no department should be required to take any graduate until that graduate had demonstrated his ability under your eye, and that he is the man you want. I have an ambition to make Washington the center of the greatest group of scholars in the world. I think we can do it. I wondered why they could not be made useful to the Government here.

Dr. MEEKER. That can be worked out.

Mr. VERRILL. The Bureau of Standards, Department of Agriculture, in quite a number of its branches, does now employ those graduates and pays them a very low rate—in fact, such a low rate, and it continues so long, that it is an imposition in some cases, so I have understood. But it does afford some very advantageous openings and it does give very good service in such cases to the bureaus.

I will now submit two further charts. The first one shows a proposed apprenticeship scheme, which will be of especial interest. It shows how the apprenticeship scheme has been worked out. The apprentices begin at No. 17, serving for six months in one grade and then advancing to another grade, and after six months to still another grade, and so on up. This chart shows that in the first six months they get $6 weekly wage. In the second six months they advance in wage, and so on up to the grade of journeyman, where they get $25. Here [indicating on chart] are canvas cutters, lining cutters, and cloth cutters, and then on to full journeymen. Those are the steps by which they advance. They start at No. 17 and go to No. 25. That has been worked out not by the theoretical man, but by the investigator who has gone into the occupations of the industry and studied them, getting together with a committee of manufacturers and a committee of workmen, and they all agree on these details as a satisfactory plan of apprenticeship.

Representative FESS. This is not in vogue anywhere, is it?

Mr. VERRILL. It is accepted, and they have agreed to put it into operation. In that respect it is not a mere paper plan by any means.

Representative FESS. How can they get in here? How many does this plan take in?

Mr. WINSLOW. That means it takes in all of the boys that the board of examiners pass for this apprenticeship system. There are 7,000 cutters in New York, and there is a trade-union of cutters, and they asked manufacturers to give them the privilege of self-examination, and the manufacturer said: "Yes, we will give it to you, and we will appoint, if you will appoint, a board which will be known as the board of examiners, and we will allow the boy to come into the trade at 17 years of age; that is, upon certification of this board that we need another boy or two, or ten or twenty or one hundred boys; but that boy must go through all these stages of canvas cutting and lining cutting, and so on, until he becomes a journeyman."

Dr. MEEKER. How does the wage committee handle those who are not fitted?

Mr. WINSLOW. The manufacturers and the union agreed to a proposition, which you will see shortly in print, as to the examination and qualifications of the men first; and after going to work, spending part of his time in the school, if it be shown he can go no further than lining cutter, he is graded as a lining cutter for so much a

week. He can still continue to go to school. If he becomes efficient as a cloth cutter, he gets his wage.

Representative FESS. Does his remaining in there depend upon his efficiency?

Mr. WINSLOW. Remaining in this grade?

Representative FESS. Yes.

Mr. WINSLOW. Absolutely.

Representative FESS. He has to be efficient?

Mr. WINSLOW. He has to be efficient, absolutely. For instance, the cutters themselves say, "This is what we want done. We want a man to know"—for instance, in this last examination, although you will not understand the technical term—"How to make a shady-legg." It is a very difficult task, because he finds laying upon the table several different colors of cloth, out of which he must bring this desired product.

Representative FESS. So he does not get to the dead line? He has a stimulus back of him all the time to make good?

Mr. WINSLOW. That is the proposition. The union says: "We will not give you another card in the dull season to let you cut canvas, because you have the efficiency to do other things, and we are going to graduate you, and therefore you have to stay in your class; we can not dump you out or jump you up."

Representative FESS. That looks like a good thing.

Mr. WINSLOW. This happens to be a seasonal industry. February and March are the high points of the season. June and July it is at the lowest ebb.

Representative FESS. You mean there is no demand for the work they are doing?

Mr. WINSLOW. There is no demand for the work they are doing. Here [indicating] is the high point of the season. When you get to May and June, you will see every well regulated family has acquired all the raiment they want, and so we have a dull season. Then it commences to go up; the season commences to rise along about the first of September. It continues fairly good then until we get to this point [indicating], where we have the vacation period, when there is no school. There you get back to the dull season once more.

Representative FESS. I will express my ignorance here because that is all new terminology to me. How is the factory school distinguished from the part-time school? I know what the part-time school is, but what is the factory school?

Mr. WINSLOW. The factory school, as we use it, means that a manufacturer will turn over to the school cloth, linings, silk, etc., each year to be cut. You see, this one is a cutter's school. These cutters, of course, only do cutting, and not making, and therefore they will cut cloth and cut linings and turn them over to the manufacturer who has supplied this particular cloth, who will have it made up afterwards; so they term this a factory school in so far as it makes a product.

Miss MARSHALL. Does the part-time school cooperate with the factory?

Mr. WINSLOW. It does, yes. When we say "part time" it means that the apprentice boy, as a part-timer, will pay to go to that school, say, 10 cents a week.

Miss MARSHALL. But where the factories cooperate, furnishing material, and it is turned back to them, it is a factory school?

Mr. WINSLOW. Yes.

Miss MARSHALL. Those are some of the big things we are trying to work out.

Mr. WINSLOW. That little scheme comprehends 7,000 men, but in that industry itself there are nearly 70,000 people in the city of New York.

Representative FESS. I understood you have the cooperation of both the employer and the employee there?

Mr. WINSLOW. I want you not only to understand that we have the cooperation of the employer and the employee, but that this is a demand upon us who have been there and know the inside, to turn over to them some scheme. They simply say, "We do not know what can be done. Will you advise, though your people, some scheme for this work?" They simply demand that of us. Much of this is done in the wee small hours of the night, and I confess to you, but I would not want to say it to other people, much has been done on Sunday, because there are not enough days in the week.

Mr. VERRILL. The force of the Bureau of Labor is very small indeed.

Inquiry No. 9, Mr. Chairman, reads as follows: "What, in your opinion, is the proper place and relationship of the Bureau of Labor Statistics and the Bureau of Education in the matter of gathering and publishing information concerning industrial and trade schools in such matters as the following: Location, enrollment, plant, equipment, organization, certification of teachers, courses of study, methods of instruction, etc."

The matters referred to in this inquiry are practically all such as are covered in the annual reports of the Bureau of Labor Statistics already published. The view is taken that the gathering and publishing of such information should be carried on continuously by the bureau, and in addition the results of the work of the schools should be studied by following the pupils into their occupations and ascertaining the measure of success resulting from the various methods of instruction. In these investigations in the industries the points of view of the workers and of the employer must be sought, and for this the confidence of such persons must be secured. An understanding of the industrial demands is practically essential to the securing of satisfactory information from employers and employees. I ought to say that at the time of that last study of industrial education which we made at that time, it was a part of our plan to follow the pupils into the occupations and find out just how far the education was proving adaptable to the work they were doing. But we were not able to do it because of limitation of funds and of time. It would be our purpose, if we could go into that matter again, to give special attention to this question of how far the pupils are profiting by the kind of instruction they are getting, and if they are not profiting by it, then what it is that is lacking in the instruction.

Inquiry No. 10 reads as follows: "What help is the Bureau of Labor Statistics now giving, if any, for use in the preparation and selection of proper teachers of industrial and trade subjects?"

The bureau's studies of the requirements of the occupations and industries and of how far those requirements may be better met by proper instruction in industrial and trade subjects should be espe-

cially useful for those who are to teach industrial and trade subjects. The particular method which has been developed for analyzing the work of industrial occupations has had this special object in view. Here I am referring to such analyses as we have chartered here and the studies of the processes upon which these charts have been worked out. These studies will be printed in a bulletin very soon, and will be at the disposal of the commission at that time.

Representative FESS. Soon enough for us to have it before the 1st of June?

Mr. VERRILL. Certainly two of them will be.

Inquiry No. 11 reads: "What additional help, if any, is the Bureau of Labor Statistics planning to give in this field, and how does it propose to give it?"

This inquiry has been practically answered in the answer which I have given to inquiry No. 8.

Inquiry No. 12 reads: "Assuming that there is great need for standardizing the requirements for teachers in various industrial and trade subjects, what assistance could the Bureau of Labor Statistics render in establishing such standards and in modifying them from time to time to meet changing conditions?"

This inquiry has been answered in the statement which I gave in answer to inquiry No. 10.

Inquiry No. 13: "What, in your opinion, is the proper place and relationship of the Bureau of Labor Statistics and the Bureau of Education in the matter of the training and selection of teachers for industrial and trade subjects?"

The statement made in answer to inquiry No. 10, indicating the kind of study which the Bureau of Labor Statistics is giving to this subject makes clear, it is believed, the extreme difficulty which there would be in securing such information if the attempt was made by an agency not in touch with industrial conditions and not having established relations with employers and employees.

Inquiry No. 14 reads as follows: "What publications has the Bureau of Labor Statistics issued in the field of industrial education, and what is it planning to issue?"

The publications issued by the Bureau of Labor Statistics in the field of industrial education are the following:

Eighth Annual Report, Industrial Education, 1892.

Seventeenth Annual Report, Trade and Technical Education, 1902.

Bulletin 54, Trade and Technical Education in the United States.

Twenty-fifth Annual Report, Industrial Education, 1911.

Also reports containing information of special value in regard to the character of the work and the requirements of occupations, as follows:

Report on Condition of Woman and Child Wage Earners in the United States:

Volume I. Cotton Textiles.
Volume II. Men's Ready-Made Clothing.
Volume III. Glass Industry.
Volume IV. Silk Industry.
Volume VII. Conditions Under Which Children Leave School to go to Work.
Volume XVIII. Employment of Women and Children in Selected Industries. Twenty-three industries.

Conditions of Employment in the Iron and Steel Industry: Volume I. Wages and Hours of Labor.

Investigation of telephone companies under Senate Document No. 380, Sixty-first Congress; also in bulletins relating to wages and hours of labor:

Bulletin 128: Cotton, Woolen, and Silk Industries.
Bulletin 129: Lumber, Millwork, and Furniture Industries.
Bulletin 134: Boot and Shoe, Hosiery, and Knit Goods Industries.
Bulletin 135: Cigar and Clothing Industries.
Bulletin 137: Building and Repairing of Steam Railroad Cars.

The publications which the bureau is planning to issue during the coming year are indicated in its statement under inquiry 8.

Representative FESS. Are those publications available?

Mr. VERRILL. The woman and child wage earners reports are now exhausted. We were able to print only a limited number, about 1,000, and the supplies are exhausted. I think it possible there may be some at your disposal in the document room. The Superintendent of Documents would certainly have a small supply.

Inquiry No. 15 reads as follows: "What is your opinion as to the proper place and relationship of the Bureau of Labor Statistics and the Bureau of Education in the matter of publications in the field of trade and industrial education?"

It is believed that the purpose of this inquiry is fully satisfied by the statements given under inquiries 6 and 9.

Representative FESS. Do you find any conflict at all?

Mr. VERRILL. In the past the Bureau of Education has not been doing any of the work we have been doing. They have never had special agents in the field making personal investigations, and all of our later work has been of that kind. We do not feel at all satisfied with any other kind. We do not care to go very much into the reproduction and publication of material or investigations collected by other agencies, unofficial agencies.

Representative FESS. You would not be inclined to give that feature of this work over to the Bureau of Education?

Mr. VERRILL. We do not feel they are in position to take it over now, and as I have indicated I do not think men attached to that bureau could profitably make studies of industries and occupations. It is foreign to all of their other work; it is not foreign at all to our work; it is associated with it.

Representative FESS. You think it would require a reorganization of the Bureau of Education by an addition of a department much like your own?

Mr. VERRILL. It would require a development of that bureau before it could touch this work, I should say. In so far as the work involved going into industries and occupations, I think that would be foreign to all their other work, and therefore would not be a suitable development. It would not work out satisfactorily.

Representative FESS. And it specifically belongs to your department?

Mr. VERRILL. Yes.

Dr. MEEKER. If I might add a word there, I have often said that we could get this information concerning the needs for vocational

training in industries as a by-product. We send agents out to study wages and hours of labor in an industry. We get information as to the needs of that industry in the course of our wage-and-hour studies. The Bureau of Education simply could not get that information without they established another bureau of labor statistics in the Bureau of Education. I do not mean to say that this work in vocational education is subordinated to our wage-and-hour work, but we do get that information as a by-product in our seeking after other information.

Representative FESS. It would be regarded quite a valuable by-product?

Dr. MEEKER. Yes. Some by-products are more valuable than the main products.

Mr. VERRILL. Inquiry No. 16 reads as follows: "To what extent is the Bureau of Labor Statistics equipped at the present time to do what in your opinion it could do efficiently to aid vocational education for the trades and industries, and what additions would it need to its facilities to meet these demands?"

The equipment of the Bureau of Labor Statistics at the present time is, as already indicated, inadequate to do the work which it should properly do in aid of vocational education. A comprehensive investigation of industrial education should be made covering the field up to the present date in much the same manner as covered in its Twenty-fifth Annual Report. A provision should then be made for a continuous study of industrial education both in this country and abroad. Further than this such additions to the bureau's facilities should be given as will enable it to include in all of its industry studies an analysis of the requirements of the occupations with reference to industrial education and to make such local industrial surveys as may be most helpful to particular localities and to the country as a whole. In order to extend the work of the Bureau of Labor Statistics in this way it is probable that a sum of $30,000 would be required to meet the expenses of a new comprehensive investigation of industrial education. For the other studies above specified it is probable that an additional sum of $25,000 yearly should be available.

Inquiry No. 17 reads as follows: "What classifications has the Department of Labor prepared on the following points which would be of help in promoting trade and industrial education: Age, sex, continuity of employment, opportunity of advance in a g ven trade, increase of wages, etc., within specific industries?"

The work which the Bureau of Labor Statistics has done in analyzing and classifying the work of occupations and industries for the purposes of industrial education has already been indicated in the statements given under inquiries 14 and 8.

Representative FESS. Is that phase of your work in this Twenty-fifth Annual Report

Mr. VERRILL. No; it is not. That report is devoted to the various classes of schools and is not devoted to the study of industry.

Miss MARSHALL. You have not this anywhere?

Mr. VERRILL. No; except in the publications that are coming. I have referred to quite a long list of publications where we have analyzed the occupations, but that has not been with special reference to industrial education.

Miss MARSHALL. Has it been with reference to a specific industry? Does it take up an industry and go through it and classify it for the persons emp oyed, as to their age, etc.

Mr. VERR LL. Yes.

Miss MARSHALL. As to their continuity of emp oyment in that industry, their opportunity for advancement in a given trade, etc.?

Mr. VERRILL. There is quite a good deal of that in reports to which I have referred.

Inquiry No. 18 reads as follows: "What analyses, if any, has the Department of Labor of specific industries that show the opportunity for employment for men and women separately?"

All of the analyses of occupations and industries already referred to carefully discriminate between the opportunities of employment for men and for women.

Miss NESTOR. Would it point out new opportunities for both? I think there are a great many new opportunities for women in certain industries.

Mr. VERRILL. No; there is no special attention given to new opportunities. It is rather a study of things as they exist.

Miss MARSHALL. I think that question was meant to show the opportunity not only for entrance, but for advancement in these industries fo women and men separately.

Mr. VERRILL. That would be shown by existing conditions. There is no discussion of what men and women might do that they are not doing, but there is plenty of information as to how they are advancing in the industries.

Miss MARSHALL. Are the occupations within the industry analyzed sufficiently to know, for example, in printing, what occupation women are employed in in the printing trade, and what occupations men are employed in within a given trade?

Mr. VERRILL. In the given trade, yes.

Mr. WINSLOW. What Miss Nestor asked is covered by a special bulletin or special report, with all that material shown.

Miss MARSHALL. As the basis for vocational training for certain industries which we do not know, such a report would be very valuable. We know what the opportunities are in certain trades and industries and what occupations girls are holding in those industries. There are certain others which we think of as belonging mainly to men, in which we know there are a large number of women employed, yet it seems to me we have no record to show what the opportunities within those industries are for the women; that is, whether they are as great for the women as for the men. Take, for instance, the candy industry. We find more women employed than men, yet if we analyze the candy industry the men are holding all of the so-called higher occupations within the industry and the women are holding all the low-grade skilled occupations within that industry. For the purpose of industrial education that would be a very valuable analysis of the various industries.

Miss NESTOR. And to know, too, whether equal opportunities are afforded.

Mr. VERRILL. I see just what you mean, and I should say, in general, that no report would be at all satisfactory to you or to me in that direction unless it was written with that question directly before the writer.

Miss MARSHALL. There is nothing on that really done. We hear to-day so much about the woman employee in all these industries—that the opportunities for her are as great as for men, etc.—but an analysis of any industry that I personally have made has not shown that to be true. It is shown to be true in almost every case that the women are in the less well-paid and less skilled occupations within an industry, and the higher, better-paid occupations are given over to the men.

Mr. MERRILL. You may find men in those same industries who stay a briefer time than the women, who do not get further ahead.

Miss MARSHALL. All those are conditions that exist, of course.

Mr. VERRILL. While there is a lot of information in these reports referred to on that subject, it is not written to answer that particular question, and it is not, therefore, in such form as it ought to be for that purpose.

Miss MARSHALL. I find that most reports are not written from that point of view.

Mr. VERRILL. Inquiry No. 19 reads: "Is the Bureau of Labor Statistics in a position to furnish within the next 10 days a statement to be incorporated in the report of the commission describing the present and proposed activities of the Bureau of Labor in promoting industrial and trade education and, in addition, what additional appropriations to the present budget it requires for the promotion of this work?"

There would be no difficulty in furnishing such a statement as is indicated within 10 days.

STATEMENT OF DR. ROYAL MEEKER, COMMISSIONER OF LABOR STATISTICS.

Dr. MEEKER. Mr. Chairman and members of the commission, I can say very briefly indeed what I have to say in addition to what has already been said. I can speak only to the general subject, of course. I would not be able to take up in detail any of the questions submitted by the commission. I want to say that I am intensely interested in this subject of industrial education and have been for a great many years, and for a number of years I have realized the necessity of making a survey of the industries of the country in order to determine what are the needs of those industries, to find just what is the matter with our educational system which makes it unsuited in some respects to serve the industries of the country. The more I have pondered upon this, the more I am convinced that the Bureau of Labor Statistics is an agency through which such surveys should be made. I think if we were given adequate funds, so as to admit of employing the necessary assistance, we could make these surveys as no other agency could make them. That is my feeling in the matter. I am ready to cooperate in any way possible.

That, Mr. Chairman, I believe is the only statement I wish to make. I stand ready to do anything that I can do in order to aid this commission in its very important work, and I am only sorry that I am leaving the country now so I shall not be able to help you personally.

Mr. FESS. When you come back you may be able to see the results of your handiwork, for I think we will be here longer than the 1st of June.

Dr. MEEKER. I sincerely hope this commission will be here longer than the 1st of June.

Mr. FESS. This commission will do its work, but Congress will not be apt to adjourn by the middle of June as they had expected.

We are very much obliged to you, Dr. Meeker.

STATEMENT OF CAPT. DOUGLAS MACARTHUR, CORPS OF ENGINEERS, UNITED STATES ARMY.

Representative FESS. We have with us this afternoon Capt. Douglas MacArthur, from the War Department. We will be glad to hear from you at this time, Capt. MacArthur.

Capt. MACARTHUR. I would like to say, Mr. Chairman, at the outset, that the pressure just now upon the War Department is very strong and that the Secretary himself in unable to come before your commission, and the Chief of Staff is also unable. The Chief of Staff this morning requested me to come here, without any special preparation, and place myself at the disposal of the commission to answer such questions as my general knowledge of service conditions will permit. I made no special preparation for this occasion, so please be very merciful. I am prepared now to take up the list of questions submitted to the War Department by your commission, if that is your desire.

Representative FESS. We will be glad to have you take them up in your own way and give us such information as you can.

(Representative Fess at this point retired from the hearing room, Mr. Winslow taking the chair.)

Capt. MACARTHUR. Question No. 1 is as follows: "To what extent is the War Department now providing training in service for enlisted men in the following subjects: A, general education; B, commercial education; C, agricultural education; and, D, industrial and trade education."

Answering first the inquiry with reference to general education, facilities are now provided by the War Department for the general education of all enlisted men who so desire through the medium of what is known as the post school. Such a school is established at every Army post to instruct in the common branches of education, such as reading, writing, spelling, history, geography, grammar, and arithmetic. Instruction is given under the supervision of officers by teachers detailed from the enlisted men. Attendance is not compulsory. The school term comprises the period from November 1 to March 31. Recitations of an hour's duration are ordinarily held five times a week, generally in the late forenoon or early afternoon. The general conduct of each school is under the control of the commanding officer of the post. As a rule, only a small percentage of enlisted men avail themselves of the advantages offered.

In addition to the post schools, schools for noncommissioned officers and specially selected privates are established in each company, troop, or battery for instruction in military subjects. The course is conducted by the company commander or by an officer of the company under his supervision, and consists of recitations, lectures, discussions, and practical exercises in drill regulations, Army regulations, minor tactics, and subjects which pertain to the special duties of the branch of the service to which the students belong. When

practicable, elementary instruction in the Spanish language is also given. The school term comprises the period from November 1 to March 31. Recitations of an hour's duration are held three times a week, generally in the late forenoon. Certificates of proficiency are furnished those who satisfactorily complete the course of instruction in any subject.

Answering the first inquiry with reference to commercial education, my answer is, none.

Answering next the inquiry with reference to agricultural education, none.

As regards D, industrial and trade education, opportunities for industrial and trade education by enlisted men are very general, and are briefly outlined as follows:

1. *The schools for bakers and cooks.*—There are three of these schools: One at Washington Barracks, D. C., one at the Presidio, San Francisco, Cal., and one at Fort Riley, Kans. Their object is to give practical instruction in the art of cooking and baking to classes composed of selected enlisted men. The school term is of four months' duration, during which period the students are excused from all other duties. Upon completion of the school course, certificates of proficiency are awarded those who successfully pass a satisfactory examination. Degrees of proficiency are noted thereon as follows:

Assistant baker: A competent journeyman baker.

Baker: Same as assistant baker, and capable of handling a bakery, its working force, and all of its accounts.

Second cook: A competent organization cook.

First cook: Same as second cook, and capable of handling a kitchen, its working force, and simple accounts.

Mess sergeant: A first cook who has demonstrated for at least one month his ability to supervise and control all details and accounts of an organization mess.

The respective post commanders act as commandants of the schools, the instructors consisting of selected officers and men. About 750 men take this course annually.

2. *The School for Saddlers and Battery Mechanics, Rock Island Arsenal, Ill.*—The purpose of the school is to train practical saddlers and battery mechanics. The school is under the direction of the Chief of Ordnance, and its administration is in the hands of the commanding officer of Rock Island Arsenal. The instructors are officers and specialists in the employ of the Ordnance Department. The school term is of 11 months' duration, during which the students are excused from all other duty. The classes under instruction are composed of specially recommended enlisted men from the various organizations of the Army. The saddlers' course comprises practical work in all the important departments of the manufacture and repair of harness, bridles, saddles, and other leather equipment pertaining to the mounted service. The mechanics' course includes instruction in riveting, in the use of the file, chisel, reamer, lathe, and other machine tools. Upon the completion of the course, certificates of proficiency are awarded to the men who have attained a sufficiently high standard in their work. About 45 men take this course annually.

3. *The School for Farriers and Horseshoers, Fort Riley, Kans.*—This school is a branch of the Mounted Service School and is administered by the commandant of the latter, who is a field officer selected from

the mounted service. The instructors are selected officers and enlisted men. The students are detailed from the mounted branches. There are annually two courses of four months each, viz, February 15 to June 15 and July 15 to November 15. During the school terms students are excused from all other duty. The course comprises the treatment and care of sick horses and practical horseshoeing. Upon its completion, certificates of proficiency are awarded to those who successfully pass a thorough theoretical and practical examination. About 200 men take this course annually.

4. *The enlisted men's division of the Coast Artillery School, Fort Monroe, Va.*—The school is under the supervision and control of the Chief of Coast Artillery and is administered by a commandant, who is a field officer of Coast Artillery. Instructors are selected officers and enlisted men.

This division has for its object the theoretical and practical instruction of the enlisted personnel who are to actually run the power plants, boilers, and engines, install and maintain the electrical machines, instruments, and searchlights, and prepare the drawings and charts for Coast Artillery work at the various posts.

In order to be eligible for a course of instruction, an enlisted candidate for master gunner, electrician sergeant, or fireman, must have had at least one and one-half years' continuous service in the Coast Artillery Corps immediately prior to the beginning of the school term; and must be practically familiar with one or more classes of machinery, apparatus, or equipment pertaining to the course selected, and must satisfy his commanding officer of his ability to pursue successfully the course of study prescribed. Those enlisted men successfully completing any course are eligible for appointment to the proper noncommissioned staff grade of the Coast Artillery Corps, and all who qualify receive such appointments.

The school work of this division comprises three distinct regular courses, each course being completed in one year. The total number of enlisted students is about 50 or 60. The three regular courses pursued are the electrical, the mechanical, and the artillery. In addition to these a special course in radiotelegraphy was established in 1912.

The electrical course is designed to prepare men for appointment as electrician sergeants. This course covers the ordinary technical applications of electricity in the Coast Artillery Service, and includes in addition elementary electrical engineering.

The mechanical course is designed to prepare men for appointment as firemen. It includes thorough practical instruction in all the routine duties of the boiler room, the engine room, and the machine shop, and, in addition, gives a practical knowledge of fuels and fuel burning, steam and steam production, boiler and engine tests, and general power-plant operation; such as will best prepare students taking the course for the responsible position of engineer.

The artillery course, while intended primarily to fit men for a proper performance of the duties of a master gunner, includes practical and theoretical instruction in mathematics, photography, topography, mechanical drawing, and seacoast engineering.

The work covered in each of these courses is in part theoretical, but is mainly practical, so that a man successfully completing a course can immediately take up at a post the practical work that falls to him.

In addition to these schools the Hospital Corps affords opportunity to acquire proficiency in nursing, sanitation, pharmacy, X-ray and laboratory work. No formal schools are maintained for such training which is imparted as a matter of routine to the 3,500 enlisted men of the Medical Department.

In a similar way the Signal Corps trains its 1,200 enlisted men in electricity, in telegraphy, telephony, and aviation; and the Engineer Corps its 1,900 enlisted men in carpentry, pipe fitting, cement and masonry work, surveying, drafting, photography, and lithography.

Mr. WINSLOW. You refer to the Coast Artillery School at Fort Monroe, Va. That is a technical college there?

Capt. MACARTHUR. It is; yes, sir. The Coast Artillery School consists of two branches. I have explained one of the schools, the enlisted men's branch. That, as a matter of fact, is an affiliated institution to the officers' schools, where we teach all of the sciences that pertain to the coast defense of the Army.

Mr. WINSLOW. You have a great deal of material with respect to that particular school?

Capt. MACARTHUR. Yes.

Mr. WINSLOW. I wonder if you have other material with reference to other schools which you could furnish us?

Capt. MACARTHUR. Yes. We could furnish you, I think, just what you want in the way of the annual report from all of these schools.

Mr. WINSLOW. That would be very important for us to have. We could use that to distinct advantage.

Capt. MACARTHUR. I will see that that gets to the commission.

Mr. WINSLOW. If you can furnish us with any printed material you have, we shall be glad to get it.

Capt. MACARTHUR. I will send the regulations that govern these schools, and also their annual reports.

Miss MARSHALL. All of this is directed to your own work?

Capt. MACARTHUR. Yes.

Miss MARSHALL. There is no sort of training for anything oustide?

Capt. MACARTHUR. We have this as directed to our own work, but it would be exactly the same sort of training similar pursuits would require in civil life. We make no pretentions that we train men for their own special benefit. We train them for the purpose of improving the general efficiency of the service.

Mr. WINSLOW. In that sense, it is a very narrow training?

Capt. MACARTHUR. It depends, Mr. Chairman. Of course we have to do pretty nearly everything in the Army, from housework down to fighting battles, and we have to train men in practically every vocation that I know of. Of course, any one man's training would be limited to a narrow scope, but I think that is true in any profession.

Mr. LAPP. Do these men who are trained in that way usually stay for long periods in the Army, or do they go out into civil life?

Capt. MACARTHUR. Generally a large majority of them go out into civil life. Our enlistment period at the present time is a four-year period. Very few of our men after four years care to come back and make the military profession their life work. They generally go out. That is particularly the case with the more excellently

trained men we have. The higher training we give them, the more chance there is and opportunity in civil life, of which they take advantage.

Mr. LAPP. Do you observe very many people coming into the Army and enlisting for the purpose of getting a particular trade, in order to go out in civil life and practice that trade afterwards?

Capt. MACARTHUR. You probably would get different expressions of opinion upon questioning different officers on that point. I have devoted a great deal of time to that subject and my personal opinion is that we do not get a fraction of a per cent of men in the service for that purpose. My opinion is that they enlist in the service through pressure of social conditions. When it is hard to get places outside, you will find our recruitment is very easy. When times are good and men can be placed outside, we have difficulty in getting soldiers. That is, in times of peace. I think that would be the case in every army where the enlistments are entirely voluntary. I remember reading an article by Lord Percy, a very complete study of the British army, and he arrived at the conclusion that 90 per cent of the recruits of the British army, which of course is enlisted in the same way as our own, came absolutely through pressure of social conditions. Of course, there is a small percentage of young, adventurous, romantic men who come in for travel and who want to see the world. Then there is another small percentage of men who follow the profession as a business. These men come in the Army. Perhaps they have relatives in the service, their fathers and friends may have been in, and they stay in.

Mr. WINSLOW. That would not apply at all to the German Army?

Capt. MACARTHUR. No; conditions are absolutely different there, because there they have conscription. Every man, with few exceptions has to serve his term with the colors.

Mr. WINSLOW. Do you know anything about the trades being taught in the German Army?

Capt. MACARTHUR. Yes, sir; that I have covered in my answer just presented to your inquiry No. 1. Of course, as I say, we are under a great deal of pressure at the War Department just now, and I have not had time to go into this thing perhaps as deeply as we would have done had we had a little more leisure.

Mr. WINSLOW. That means, if we give you more time you would give us more information?

Capt. MACARTHUR. I can not even promise that.

Mr. WINSLOW. I hardly expect you can.

Capt. MACARTHUR. Present conditions in the service are of such a nature that we can not promise anything.

Mr. WINSLOW. You would promise to do it if you could?

Capt. MACARTHUR. We would do it if we could, and, I think, if the Army does not have to take the field we could give you any information you wish upon foreign services.

Mr. LAPP. In answer to these first questions, Capt. MacArthur, you passed over agricultural education. Is there any attempt in the Army posts to develop anything along that line?

Capt. MACARTHUR. I said, in answer to that question, none, because we have no schools for the purpose. Of course, practically, there are a few men in every garrison that get that training, because each organization of the service is allowed a small plot of ground to have a com-

pany garden. We raise vegetables, and so on, to help out the Army rations, so as to give the men some palatable food when the season occurs. There are probably two men in every company detailed for several months in the year who assist in working the company garden; but we always take the man who has been a farmer before, because what we look at is not the training of the man, but what he produces, the results of his work.

Mr. LAPP. That work is not conducted systematically, under supervision?

Capt. MACARTHUR. No, sir; that depends upon the company commander. That is our general rule. Every company commander has his garden in peace conditions, and two or three men are engaged in that work during the year. Of course, the Government itself does not support that. That is simply allowed by the regulations, but there is no financial support and no attempt made to instruct those men.

Mr. LAPP. That disposes of that. I had an idea that was being done.

Capt. MACARTHUR. No; the Government does not attempt to do anything in that line at all.

Mr. WINSLOW. You may proceed, Capt. MacArthur.

Capt. MACARTHUR. Question No. 2 reads as follows: "To what extent is the War Department planning to extend the training of enlisted men in these subjects: A, general education; B, commercial education; C, agricultural education; and D, industrial and trade education."

No present extension of the vocational training of enlisted men is contemplated. A thorough study of the subject is now being made by the General Staff as to the practicability of extending the commercial, agricultural, and industrial features. It will probably be found that very little more can be done than is already provided.

I will say that it is a very difficult proposition to devote enough time to the training of enlisted men to produce very much in the way of results further than we do at the present time. I think we do considerably more than any army in the world with possibly the exception of the British Army. The British Army was forced, about 1907, by lack of enlistments, and so on, to a propaganda looking to the increase of vocational training of its enlisted men, in order to popularize the service. I have seen the thing worked practically. I was in India about that time, or a little later, and I spent about six months with the British troops over there, and the results that I saw were not good. Anything that depends upon voluntary action on the part of the men is almost doomed, I think. Of course, the man has to do a great deal of work in the Army that is strictly professional work, and all systems of vocational training, outside of that which is given the man as a duty in the Army, are just so much added work for him, and it is a very small percentage of the men that are willing to bind themselves to that added work. That has been the universal rule and experience in every army in the world that has tried this proposition. With our elaborate system of free schools, it is a very remarkable man who reaches the age of maturity, when he enters the service, who has not adopted some line of work—professional work—and if such a man exists he generally has not the ambition to begin as late in life as that to start. We get men, of course, in the service—the majority

of our men are men that have some profession; that is, they have worked as carpenters, blacksmiths, masons, or something of that sort, and they are out of a job and come into the Army. Shall I go ahead, sir?

Mr. WINSLOW. Yes; you may proceed, Captain.

Capt. MACARTHUR. The third question is as follows: "To what extent are correspondence-school courses now being taken by enlisted men, and under what rules and regulations is the work carried on inside the Army?"

Between 2 and 3 per cent of the enlisted men ordinarily take correspondence-school courses. The Government does not actively participate in such work beyond lending every possible moral encouragement to the enlisted man who desires to undertake it. In my own particular branch of the service, the Engineer Corps, I believe the percentage is a little higher than any other branch. I have known in my own company as high as 5 per cent of the men to be taking a correspondence-school course. But I think that the average is between 2 and 3 per cent; that average is about right if you would take it for long periods of time.

Mr. LAPP. In your corps what kind of courses do they usually take?

Capt. MACARTHUR. Of course they generally run to civil engineering courses and its attributes. The men would take such things as various courses in electricity, shop management, chauffeurs, or something like that; all types of concrete and masonry work; men want to go out as foremen and things of that sort.

Mr. LAPP. Is it your observation that they select trades within their reach, or are they trying to prepare for something higher?

Capt. MACARTHUR. The majority of these men are ambitious. They are always stepping up. I do not say they are overstepping. They do not try to start out as civil engineers from the start, but a great many of these men, I think, do this—in fact all of them—in order to improve their conditions. I do not know that I quite caught your question correctly?

Mr. LAPP. I was wondering whether they got the notion that they could prepare for civil engineering when in fact they might not have any basis for that ambition; that is, I mean going through a correspondence course and becoming a full-fledged engineer, when the average man could not possibly do it.

Capt. MACARTHUR. No, sir. I do not think those men do that very frequently. The majority of the men that start that sort of thing go to their officers at once for advice, and they generally get fairly good advice with reference to those things. I think they generally confine themselves to what is within their grasp. Of course we get some very excellent men in the engineers. I have seen men in the Engineer Corps who if they were men in civil life, with a very little experience and training, I would be willing to give very much more than the service gives—to give them $250. I have had civil engineers under my employ that were not so good as some of the men I have had in the service. A good many of our men in the Engineer Corps drift out of the corps when their enlistment is over, into the engineering department at large. The Engineer Corps of the Army of course, has not only its military side, but its civil side. All of the river and harbor work is under our general charge, and we place a great many

men, who go out from the battalions, right in the engineering districts, to grow up on the work; taken in as foremen; but they land only where their ability limits them.

The fourth question submitted by your commission is as follows: "What is the character of the instruction in industrial and trade subjects for enlisted men: A, In what industries is instruction given? B, How long is the course? C, What kinds of teachers are employed and how are they secured? D, What effort, if any, is made to place the men, and E, How many men are now taking instruction in industrial and trade subjects?"

All of those branches of the question have been answered in the answer to the first question with the one exception, D, "What effort, if any, is made to place the men?"

No direct effort is made to place men. None is needed. The various school certificates, together with the discharge papers given the soldier, are thoroughly adequate to place him where his merit deserves. Discharged soldiers of ability are in universal demand.

Question No. 5 reads as follows: "How is the educational work of the Army supervised? A, who is responsible in the War Department for this instruction?"

The Chief of Staff is in general charge of all systems of education for the Army.

"Who is the responsible party at each Army post for the courses of instruction given? What amount of time is given to the work and at what hours?"

These latter questions have been answered previously in my answer to question No. 1.

Question No. 6 reads as follows: "Attached hereto is a memorandum marked Exhibit A, which lists the kind of information which has been proven to be of value in carrying on industrial and trade education in the country. Would such information be of value in carrying on industrial and trade education in the Army services?"

The answer to that is, No.

Question No. 7 is as follows: "In your opinion, should this information be gathered by the War Department for itself when needed, or should it be gathered by some other Federal department and used by the War Department?"

In my opinion, this information is not necessary for the War Department. However, if the information is needed, it would be advisable to have it collected by some other bureau.

Question No. 9 reads as follows: "What additional appropriations does the War Department require in order to carry out its plans for the extension of the training of enlisted men in the service?"

The answer to that is, None.

Question No. 8 reads as follows: "To what extent do foreign Governments educate enlisted men in the service in these subjects: A, general education; B, commercial education; C, agricultural education; D, industrial and trade education?"

The following shows briefly from information at hand the extent to which some of the foreign countries educate enlisted men in the subjects covered by this question:

Germany, as I have said, has a conscript service. With reference to instruction in general education, commercial education, and

agricultural education, there is none except such as may be given the man to better fit him for his duties as a soldier.

Instruction in industrial and trade education: No efforts are made to instruct soldiers in any trade with a view to improving their condition after they leave the Army. The direct purpose of all instruction is to better fit them for their duties while in the army. Instruction is given to a limited number of soldiers who have decided to continue in the army to fit them for duty as army tailors, shoemakers, harness makers, machinists, tanners, and bakers; or to fit them for work in the various positions in the army clothing and cap factories. Those men can hardly be regarded as of the fighting line. They are men who make the army a profession in those particular trades.

There are schools for the purpose primarily of fitting enlisted men for duty as noncommissioned officers. The course includes German, arithmetic, geography, history, and composition. Attendance is compulsory. There are also schools for reenlisted men with a curriculum designed to prepare them for entry in to the civil service, which is open to them after 12 years of service in the active army. Attendance is optional. The course includes French, political science, shorthand, and typewriting, but no special training is to be given any of the students for particular vocations.

Great Britain.—General education: Army schools are established, mainly for the purpose of affording to noncommissioned officers and men a sound and useful education. All noncommissioned officers are required to attend until they can obtain a second-class certificate. The subjects for this are arithmetic, composition, spelling, and writing. All recruits less than 18 years old are required to attend school until they can obtain a first-class certificate. The subjects for this are arithmetic, composition, map reading, history, and geography. The attendance of other men at the schools is optional, but is encouraged.

Industrial and trade education: The system of vocational training was put into effect in 1907. The army council held that the scope of instruction shall be to give practice and further proficiency to men with knowledge of a trade, and to give general handiness, understanding of the use of tools, etc., to men with no such knowledge. Ten thousand dollars was appropriated to assist in starting the scheme. All courses are voluntary, and a small fee is charged for the purpose of making the classes self-supporting. A year after the system was put into effect reports show that 80 trades or occupations had been represented in the courses given, and that a total of 3,197 men had completed courses. The most popular were bookkeeping, bootmaking, carpentry, chauffeur, clerk, gardener, painter, saddler, shorthand, surveyor, tailor, typewriter, telegrapher, waiter, groom, etc. The bulk of the instruction is provided from military sources, but some is furnished by departmental or civilian instructors in courses arranged specially for the benefit of soldiers. The estimates show that there was appropriated for the above purpose, for the year 1913–14, $2,500 and for the year 1914–15, $1,250.

Commercial education: Reports show that the 88 courses mentioned included bookkeeping, commercial arithmetic, and shorthand.

Agricultural education: Reports show that the courses mentioned included farming, gardening, and care of horses.

A scheme for providing business training for soldiers, in order that they may be able to take up civil employment on leaving the colors, was started in 1913. The scheme contemplated the organization of correspondence classes, the men to pay for their instruction. The fees range from $10 to $17, to be paid in small installments, to suit the convenience of soldiers. Classes were to be formed for the following courses: Business training and correspondence; commercial bookkeeping and accounts; shorthand; commercial French and German; salesmanship; chauffeur's course in the theory of motor-car working and mechanism; billiard marking; waiting and indoor servants; club superintendent; road making, and course for road foreman and deputy surveyor; sanitary inspector's course; handy man's course. No reports are at hand to indicate what success this scheme has met with.

Japan.—General education: None, except such as may be given the man to better fit him for his duties as a soldier.

Agricultural education: Two hours are devoted per week (on Sundays) to the instruction of soldiers in agriculture. The course is optional. The teachers are professors of the agricultural colleges. Certificates are given by the regimental commander to those soldiers who complete the course.

Commercial education, industrial and trade education: Where it does not interfere with military duty or military instruction, education may be given to noncommissioned officers to enable them to carry on some professional or business in civil life. For this purpose special courses are established in various organizations to which are admitted noncommissioned officers who have served more than six years, and who have qualified in their military instruction. Occasionally other noncommissioned officers are admitted to these courses. Taking such courses is a voluntary matter. Incidentally the training given for technical military purposes may fit a soldier for certain vocations, such as nurse, apothecary, trades connected with the supply departments, horseshoer, blacksmith, carpenter, shoemaker, tailor, baker, etc.

France.—General education, agricultural education, and commercial education: None except such as may be given in the army schools to better fit the man for his duties as a soldier.

Industrial and trade education: Several years ago there was instituted a system of manual training in barracks. The purpose of this training was to benefit those who had served an apprenticeship or who had already followed a trade before their entry into the army. The program of instruction comprised a series of talks or lectures, with screen pictures and simple experiments given in the barracks, soldiers' clubs, and recreation rooms, and a series of visits to public or private commerical industrial and agricultural establishments in the garrison towns or their immediate vicinity. The course was optional and was not to interfere in any way with military training. Individual attendance of noncommissioned officers and privates at technical or practical courses given by commercial, agricultural, and industrial schools was to be encouraged, but military duties must never be interfered with. In the subject of agricultural education, professors of agriculture supervised the courses and gave lectures. Veterinarians were placed in charge of the courses dealing with the care of public animals. No reports are at hand to show whether the scheme has been a success or whether it has been continued up to the present time.

Italy.—General education, commercial education, industrial education, and trade education: There are no reports to indicate that any instruction is given in these subjects except such as may be given in the army schools to better the man for his duties as a soldier.

Agricultural education: Some years ago courses were established in this subject. Ten periods of instruction each month, each of one hour, were given by professors of agricultural schools, assisted by the army officers. Attendance was optional, and prizes given to stimulate interest. No reports are at hand to show whether the scheme has been a success or whether it has been continued to the present time.

Question No. 10 reads as follows: "Is the War Department in a position to furnish within the next 10 days a statement to be incorporated in the report of the commission describing the present and proposed activities of the War Department in promoting industrial and trade education, and in addition, what additional appropriations to the present budget it requires for the promotion of this work?"

It is believed that all information that is desired is contained in the answers which I have given the commission this morning, and no necessity would therefore seem to exist for any further statement in the premises. I think, however, all the War Department is prepared to give at the present time is included in these answers which I have given. I will of course send the printed matter to you, as you have requested.

I would say, Mr. Chairman, that offhand we probably train 10 per cent of our men in some type of vocational training; that is, some direct vocational training that they apply immediately on leaving the service, and that incidentally we give training, that will assist them very much in some trade, to a very large percentage of men. For instance, all the men of our mounted branch of the service become experts in regard to all questions on stable management—grooms, drivers, and anything of that type. Of that incidental vocational training, no mention has been made of these answers.

Mr. WINSLOW. Some of them approach being circus riders?

Capt. MACARTHUR. All the circus riders practically come from our service. Of course, these men have opportunity to learn, and Buffalo Bill and all those people follow them all over the country. Of course, when they get an exceptionally good man, he leaves the service. We have a system now whereby a man can buy his discharge at any time. The amount he pays for his discharge depends upon the length of service, varying universally with the length of service he has; so if a man has an offer outside of peculiar advantage, he can buy his discharge at once.

Mr. WINSLOW. But you are supplying to the circus corporations a very considerable number of men as teamsters, plus those who go in as riders?

Capt. MACARTHUR. We do; yes, sir. The Army is a great feeder. There is no question about that.

Mr. LAPP. I suppose the profession of veterinary surgeon, or even a very careful study of that subject, would be beyond the immediate possibility of the Army, but they must get a considerable training in the care of animals.

Capt. MACARTHUR. As you will see in my answer to one of your questions, we have a school for that. We go into that pretty deeply.

We can not afford, with our valuable plant in the way of animals, to take any chances at all. So we have a school for farriers and horseshoers, and in this farrier school we go into the subject very deeply.

Mr. WINSLOW. You have some considerable data on the farrier school, have you not?

Capt. MACARTHUR. Yes; and I will send you the annual report of that school. That is an auxiliary school to what is known as the Mounted Service School at Fort Riley, which consists of the school of equitation for officers, speaking in general terms, and the schools for farriers and horseshoers for enlisted men, with several other auxiliary schools. They train there as farriers and horseshoers. They train there about 200 men every year, and then in each troop and battery there are a lot of men who are given what might be called the rudimentary principles of the farrier's business; so you could go into any troop and battery consisting of 100 men and you could get from 10 to 20 men that could attend to the ordinary sickness on the part of an animal. You probably would find there are two or three of these men that are exceptionally good.

Mr. WINSLOW. What about your hospital school?

Capt. MACARTHUR. We have no hospital school, but every man in our Medical Department is trained in the duties of nurse, apothecary, and so on. At every hospital we have that is a part of their routine duty. I have made mention of that in one of my previous answers, as you may recall, as follows:

"In addition to these schools, the Hospital Corps affords opportunity to acquire proficiency in nursing, sanitation, pharmacy, X-ray, and laboratory work. No formal schools are maintained for such training, which is imparted as a matter of routine to the 3,500 enlisted men in the medical department."

They all have to learn that. I do not mean to say all of them become apothecaries, but the best men go up and take courses as apothecaries and get increased rank, and so on. Practically all those 3,500 men in that department get vocational training that appertains to the profession of medicine. It is the same way in all the other technical branches of the service. In the engineers, all the men are trained in some vocational pursuit; and the same way with the signal corps. Those man are trained with everything that appertains to the transmission of information either by wire or wireless or in the various aeronautical ways. So we have in our Army, I suppose, 10,000 men out of an Army of about 85,000 who are always undergoing vocational training. But as I say, we do not do it with any idea of doing it for the benefit of the individual except as that is incidental. We do it because we have to have these men to function properly in the service.

Mr. LAPP. If you were to hold out to the people the inducement that they could get vocational training, or training in the trades, do you think men would come into the Army in greater numbers?

Capt. MACARTHUR. We do that now. Our enlisting officers and circulars all present those matters along those lines to recruits. That is made one of the features of our information circular to prospective recruits.

Mr. LAPP. How long has that been the practice, to hold out vocational or trade training possibilities?

Capt. MacArthur. I am not quite prepared to say, but it has been featured for the last four or five years that I know of.

Mr. Lapp. Is there any observable change in the kind of people that come?

Capt. MacArthur. No, sir.

Mr. Lapp. Do they come in larger proportion to get the training?

Capt. MacArthur. My answer to that is a matter of opinion, and it has been my observation and opinion that that does not bring in anyone. The men come into the Army for very different reasons than to get a vocational training. I believe they come in because they have got to live, and they do not want to steal and do not want to beg. I believe when a man is out of a job he looks around and takes the line of least resistance, and it is generally the recruiting office. The pay in the Army is good and the life is pleasant. It is a place for good sober-minded young men. The idea that some people have that the Army is a place for a scamp or a ne'er-do-well is a great fallacy. Men like that who come in last a very short time. In fact, the Army to-day never gets away from the school bell. You are a schoolboy or a school-teacher all your life in the Army. It is to my mind the greatest educational institution in the Government. Of course, the primary education they receive is the education in the profession of arms, and that is the real intent now of the Army, to make the Army a clearing house, a sort of school clearing house to teach the profession of arms, to make the enlistment a short one, the training intensive, and to pass the men back into civil life in the shortest possible time with such vocational and military education as we can give them. Of course, in order to make the enlistment period as short as possible, we have to intensify the military training, which would minimize the opportunity for special vocational training. That is the present ideal of the thinking men of our service.

(Here ensued a protracted informal discussion which the reporter was directed not to record.)

Mr. Winslow. Capt. MacArthur, I am sure the members of the commission are very much obliged to you for appearing before us this morning.

Capt. MacArthur. If there is anything the Secretary of War can do to assist you, he will be glad to do everything in his power along that line.

Mr. Winslow. Thank you, Captain.

The commission will now stand adjourned until 8 o'clock this evening.

Thereupon, at 12.55 o'clock p. m., the commission adjourned until 8 o'clock p. m. on this date.

SECTION II.

INDIVIDUALS AND NATIONAL ORGANIZATIONS.

SECTION II.—INDIVIDUALS AND NATIONAL ORGANIZATIONS.

MONDAY, APRIL 20, 1914.

EVENING SESSION.

Senator PAGE. The commission will come to order. I understand the arrangements for to-night include remarks from Mr. McVey, Prof. Maphis, Mr. Weber, and Mr. Springer. Mr. Springer is here, ready to proceed, and inasmuch as Mr. McVey has not yet arrived, I think we will hear from Mr. Springer at this time.

STATEMENT OF MR. D. W. SPRINGER, SECRETARY OF THE NATIONAL EDUCATIONAL ASSOCIATION.

[For additional statement of Mr. Springer, see p. 231.]

Mr. SPRINGER. Mr. Chairman and members of the commission, I feel that the situation under which I appear before you is rather unfortunate for the organizations that I represent in that I have not received, until a moment ago, anything in the way of an outline indicating the lines of investigation which your commission has decided upon pursuing. The telegram announcing the hearing was received less than 24 hours before I had to leave on a trip that had already been arranged, and the letter which it said was to follow had not been received. Consequently it was impossible for me to do anything more than telegraph to the members of our committee indicating the fact that a hearing was to be held; that the lines of investigation I did not know; that I would be present and gather all the information that I could; that if they could be present I should be glad to have them, and if they were not here I would ask the commission for the privilege of filing a brief later that would represent our views on the points in question. Mr. Prosser has kindly given me that outline since coming into the room.

I think it would be well for your commission to know in general what has been the attitude of the association toward the general subject of vocational education, and so on receipt of the telegram I asked our stenographer to pick out any actions that may have been taken in the last two years upon this question, and we found these actions were as follows:

The delegates of the National Educational Association, in attendance upon the Third National Conservation Congress, at Kansas City, Mo., September 25, 16, and 27, 1911, presented the following resolution, which was unanimously adopted by that body:

"*Resolved*, That in a system of free schools all the children should be trained for good citizenship and for the useful industries; that owing to the rapidly changing and increasingly complex social and economic

conditions now found in all sections of the Union, our public sc ools should make ample provision for instructing the youth of the land in the more important occupations in which our people are engaged, and parents and teachers should counsel together to determine, if possible, what vocation each child is best adapted to pursue.

"*Resolved*, That the vocational education bill now pending in Congress, providing for the training of teachers to give scientific instruction in the elements of agriculture in the rural schools, has our hearty indorsement, and we urge its speedy enactment."

That is one action. Then at the St. Louis meeting of the department of superintendence, which was held February 25–28, 1912, the following resolution was passed:

"Whereas the Page bill, or Senate bill No. 3, introduced by Senator PAGE in the Senate of the United States, seeks to accomplish the good purposes of the Burkett-Pollard and Dolliver-Davis bills and other good purposes not provided for in those bills, and has now been amended to suit the needs of all the States; and

"Whereas it proposes to cooperate with the States in encouraging instruction in agriculture, the trades, and industries, and home economics in secondary schools; in preparing teachers for these vocational courses in State colleges of agriculture and the mechanic arts; in maintaining instructions in these vocational subjects in State normal schools; and in maintaining extension departments in State colleges of agriculture and mechanic arts: Therefore be it

"*Resolved*, That we indorse the Page bill, or Senate bill No. 3, and call upon the Members of the United States Senate and House of Representatives to pass it promptly in the best interests of the people."

That was in midwinter meeting of 1912. In the summer meeting of 1912, held at Chicago, the general body passed the following resolution:

"*Resolved*, That we heartily indorse the comprehensive plan now before Congress for increasing the facilities in State colleges of agriculture and mechanic arts, State normal schools, and elementary schools for training in agriculture, domestic economy, and other industrial work for the great mass of our people, through the public schools of the entire country."

Also:

"Whereas vocational choice is inseparable from the several vocations to be pursued;

"Whereas the public schools have hitherto left these matters to the solution of the worker and the employer;

"Whereas the increasing demands of the occupation of the home, shop, and farm are forcing upon local communities the necessity for some form of vocational training; and

"Whereas the United States in order to protect its population, by maintaining its vigor and morality; to change its large output of raw materials into an output of finished product; to make it possible to fight, not with armored cruisers, but with brain and skilled workmanship; and to maintain its commercial prestige, demands some form of vocational training: Therefore be it

"*Resolved*, That this association recommends to the Federal Government the passage of a law, under conditions clearly recognizing the autonomy of the States in adaptation to local conditions, carrying

with it an appropriation sufficiently liberal to render possible its operation, which law shall have for its end the ultimate improvement of the home, shop, and farm through vocational training; that such aid be administered through the United States Bureau of Education, or a similar body, thence through the State board of control of each State to the several local boards of control in the several communities, and that such grants to such local communities and to such States be dependent upon actual results secured in such local communities and States."

Also:

"*Resolved*, That this association authorizes its president to appoint a committee of 11 members, made up of educators, employers, employees, and social workers, to make a special study of this whole question, and to report to this association at a future meeting."

That committee was appointed. It contains in its membership two of the members of your commission, Messrs. Prosser and Winslow. A preliminary report was made at Salt Lake City last summer—extremely preliminary, in that they had at that time only endeavored to determine what they would try to do. They are at work. To what extent, at the present time, the work has progressed, perhaps Mr. Prosser or Mr. Winslow would be better able to say than am I. But I know that it is expected that a second report would be made at St. Paul, and when that is made it will represent the opinions of the classes indicated—educators, employers, employees, and social workers—on the general question of vocational education.

Our organization, in the educational investigations which it conducts, aims to present methods that can be used and things that can be done in the schools entirely independent of the source of revenue. I believe their report, when made, will be more along the line of what may be accomplished, using the question of revenue only as one of what might be considered a secondary line of the questions. Am I right in that, Mr. Prosser?

Mr. PROSSER. I rather think that is true. Of course it is possible for a person to indorse vocational education and to indorse different forms of vocational education without asking for a national grant for any or all of them.

Mr. SPRINGER. Yes.

Senator PAGE. But the fact that at the previous meeting you had very strongly indorsed Federal aid would lead one to think that perhaps in this latter meeting you thought back to the meeting where you did make that indorsement.

Mr. SPRINGER. I would not want to be understood that the association had changed its attitude with regard to Federal aid. But in the appointment of this committee to do this specific work, the aim was to get the opinion of these various persons as to what could be done by the schools and where the funds were to come from for the purpose of carrying it out.

Senator PAGE. Do you consider the action of this commission as predicated upon the supposition that we are to plan for Federal aid?

Mr. SPRINGER. Yes, sir; I take it that that is probably the purpose of your commission having been called into existence.

Senator PAGE. There is no question about that, I believe. I do not know but that the individual members of the commission may

feel differently about it, but in bringing about the appropriation for the commission I think there is no doubt that the idea of Federal aid was the leading thought of the plan.

Mr. SPRINGER. With our committee it would be secondary; with your commission major.

Mr. PROSSER. This committee to which Mr. Springer refers is a committee of 11 members appointed for the purpose of helping, through reports and publications, the work for vocational education in the public schools of the country in general. For instance, that committee expects to report at the St. Paul meeting this summer as to the meaning of terms and definitions used in the field to-day to see if they can not clarify the all too evident confusion.

Mr. SPRINGER. Not at all, no. The next resolution goes one step further. That was at the Chicago meeting in 1912. They made the report then in 1913. At the Salt Lake City meeting in 1913 a report was made. For doing this work, I might incidentally say that at the Chicago meeting they appropriated $500 and at the Salt Lake City meeting they appropriated $2,000, all of which, however, was not available, owing to the fact that somebody forgot to do everything that was necessary in the question of the appropriation. At the Salt Lake meeting of the National Educational Association, the general body passed this resolution:

"*Resolved*, That a committee of five be appointed by the president-elect of this association, one from a State university which includes a college of agriculture; one from a State university which does not include a college of agriculture; one from a normal school; one superintendent of city schools and one State superintendent of education, to confer and advise on behalf of the National Education Association with any committee or commission which may be appointed by the Congress of the United States to frame legislation for Federal aid to vocational education, or to consider plans for such action by the Federal Government, or which may be considering legislation to that end which may be pending before Congress."

There you see the last action specifically retains the question of the Federal aid.

It was under the terms of that resolution that the present committee was appointed, consisting of John W. Cook, president of the State Normal School, Dekalb, Ill., chairman; William O. Thompson, Ohio State University, Columbus, Ohio; James Y. Joyner, State superintendent of public instruction, Raleigh, N. C.; Frank L. McVey, president of the University of North Dakota, University, N. Dak.; and F. B. Dyer, superintendent of schools, Boston, Mass., representing the five different lines of educational activity called for by the resolution.

Senator PAGE. They have not made their report yet?

Mr. SPRINGER. No, sir. The purpose of the appointment of that committee, as it says, is merely to confer and advise on behalf of the National Educational Association. As I indicated, on receipt of the telegram announcing this hearing, I immediately telegraphed to Mr. Cook, who is the chairman, and sent word to each of the other members of the committee, from two of whom I have been unable to receive any reply except from the office to the effect that they were away.

Senator PAGE. Which of the committee do you expect will be with us to-night?

Mr. SPRINGER. Mr. McVey is here; he has just come in. He is the only one of the committee who is here. Mr. Joyner is at home. Mr. Thompson has a meeting of his board of regents to-morrow, and every president knows what that means when they have the budget for next year as a matter of consideration. Mr. Cook in the same way has a meeting of his board called for Wednesday, and he was fearful that he could not be here. I have not heard from Mr. Dyer.

That, Mr. Chairman, gives your commission an idea of the attitude of the association with regard to the general question of vocational education. They have in all of the discussions felt that the term "vocational" should be inclusive of the agricultural, the industrial, the commercial, the domestic science—all of the various forms—and in indorsing the general subject they have had in mind the items or the departments that go to make each up. They have also had in mind that it was not only to be taken into consideration as to what was to be furnished the student in the school, but also what should be furnished to the teacher who was to be the means of instruction in the schools; and that in discussing vocational education we must keep in mind that continually the training of the teacher is a very important phase of the question.

Mr. PROSSER. That committee has had a meeting, has it not, Mr. Springer?

Mr. SPRINGER. They have not. They were unable to get together at the Richmond meeting. Three members were not there. They have not been together yet. But, as I said to you incidentally, Mr. Prosser, I will get together enough of these queries multigraphed to send to the committee and others whom they may suggest, in order that we will be able to file a brief that will represent the association in the matters that are before you.

Mr. PROSSER. Would it be possible for you to file that brief on or before the 5th of May?

Mr. SPRINGER. I think so. In the hearing over in the House before the Committee on Education I filed one brief covering the views of a little over 200, in two weeks, that pertaining to the national university question. This of course is a little bit more extensive in the line that it covers, but I believe that I can do that.

Mr. PROSSER. We are very much pressed for time. Under the terms of the resolution creating the commission we must report by the 1st of June. Our appropriation expires on that date. It means a very large part of May must be given over to the writing of the report. Anything received from the National Educational Association Committee would do us much more good before the 5th of May than after the 5th of May.

Mr. SPRINGER. I think we have a meeting of the International Council here in Washington on the 9th of May. That contains two of the members of this committee, Messrs. Joyner and Thompson. They will both be here at that time, and I had in mind that by correspondence things could be gotten into shape perhaps to at least finish along about the 8th or 9th, which is not much beyond the time which you suggest, and it may be we can do it sooner.

Mr. PROSSER. We would dislike to take snap judgment on the committee. We have no desire to do so, but want you to take as much time as you feel is necessary, but of course we must point out that if you expect to influence the action of the commission, that influence ought to be exerted before instead of after the beginning of the formulation of the report.

Mr. SPRINGER. I did not know anything about the time you had set, but we had agreed on May 9 on this other affair, so I had thought it might be rounded up at that time.

Mr. PROSSER. I would like to raise the question here for informal discussion of the commission as to whether we feel that May 9 or May 10, as a last date, would be a satisfactory date on which to get the report of the National Educational Association.

Mr. SPRINGER. We will get it to you sooner.

Senator PAGE. I should be very glad to have each member speak their views about it, but personally I am going to say that I think we will benefit vastly more if you will file it by the 5th of May, rather than by the 10th. We are going to be crowded so badly that any elaborate matter received after the 5th of May is likely to be of no great value to us, it seems to me.

Mr. SPRINGER. We will have it to you by the 5th. We may want to do like the people in Congress, however—ask leave to extend our remarks in the Record.

Senator PAGE. That does not apply to the Senate.

Mr. SPRINGER. They extend them in the first place? [Laughter.]

Senator PAGE. Yes.

Mr. SPRINGER. I simply desire to aid this, Mr. Chairman, that in view of what I have said, if there are questions you would like to incidently ask, perhaps outside of your general schedule, I should be very glad to give all the information I can.

The CHAIRMAN. Mr. Springer, I have had considerable correspondence with President McVey. I have never had the pleasure of meeting him until this evening. I must go over to the meeting of the Senate at 9 o'clock, and if there is no objection, I would like to call upon Mr. McVey now.

Mr. SPRINGER. That is certainly very agreeable to me, Mr. Chairman.

STATEMENT OF MR. FRANK L. M'VEY, PRESIDENT THE UNIVERSITY OF NORTH DAKOTA.

[For additional statement of Mr. McVey, see p. 164.]

Mr. MCVEY. I am very glad to meet you, Mr. Chairman and members of the commission. I am afraid my attitude on this whole matter will be a little like that of the two people who were standing on the back end of the car, traveling to the same neighborhood, and one gentleman asked the other, "Is your wife entertaining this winter," and he replied, "Not very."

Senator PAGE. I know something about your attitude, and I shall be very glad indeed to hear from you. We are very glad to have you here.

Mr. PROSSER. You are not speaking for the committee in your attitude, but speaking for the attitude of the association which you represent?

Mr. McVey. I might put it this way, that there are three relationships in which I stand to this whole question. In the first place, a group of universities, 20 in number, which do not have agricultural colleges associated with them, appointed a committee of three to take up the question of the Page bill and the various ways in which it affected them, as well as the general problem of education inside of the States in which they were located. Again, as Mr. Springer has indicated, I am a member of that committee which might be called a sort of "minute-man" committee, I guess, more than anything else; I do not know just how to put it more than that. Then there is a third relationship that I stand in as chairman of the committee on economy of time in education, which is a very considerable factor and ought to be given some thought in connection with this problem of vocational education.

Senator Page. Dr. McVey, is there any department of your school which is devoted to the education of teachers?

Mr. McVey. Yes.

Senator Page. That would place it in very close relationship to the Page bill. I do not know what we may hereafter provide here, but that is the part of the Page bill in which you are particularly interested, I know.

Mr. McVey. On the other hand I do not want to be regarded as representing any specific interest here, but rather as coming in the way of offering the commission some thoughts and suggestions that I have had upon this matter.

Mr. Prosser. Then you are speaking individually and not as voicing the point of view or attitude of any particular association?

Mr. McVey. I voice the point of view of the separate State universities, as chairman of their committee; and as an individual member of these other committees I should voice at least one member of those committees.

But, in presenting this matter I want to speak on the general phases of it, and Prof. Maphis will speak on the phases as associated with the training of teachers, and Dr. Weber will speak of a still further phase, the division of function as shown in the existence of rural teachers and in normal schools.

It strikes me that the State, as an entity, must be considered and given larger consideration than seems to be the tendency at the present time through the development of Federal legislationl. The income tax is an example of where the power and authority of the States to bring about taxation will be more or less affected as a consequence, and yet the burden of conducting the ordinary business of the States, namely, the care of defectives, the punishment of criminals, the care of delinquents, the continuance of roads and roadways, to say nothing of the various assessments made for municipal properties, rests upon the States and upon their communities. The extension of the Federal function means more and more expenditure of money, and we are just beginning to enter into a field of education, as is shown in the instance of the Morrill bill and again in the various proposals that are made for roads, etc., as well as those made now for education.

So that there is a question in my mind how far the Federal Government ought to continue in this particular field of constantly increasing expenses, of raising the cost of maintenance, and as a con:o-

quence making it more and more difficult for the States to carry on their parts of local government.

It may not be known to you, but the cost of the Federal Government, from the point of view of taxation, is about $37 per capita, not from the point of view of the entire cost but the tax cost. Add to that the cost of about $20 to $22 per capita for State governments and you will see we are entering a field of cost that is beginning to approximate more and more the cost of government in Europe.

Regarding this question of whether it is wise to make Federal grants to States for educational purposes——

Mr. PROSSER (interrupting). May I interrupt, because I am interested in your line of approach?

Mr. MCVEY. Yes, sir.

Mr. PROSSER. Is it not true that if the same thing which you seek to encourage through Federal efforts were carried on by the States without Federal effort, it would cost as much or more?

Mr. MCVEY. Possibly; but I am not sure that the appropriation which the Federal Government has made in the field of education has been wholly beneficial to education.

Mr. PROSSER. That is true of a great many appropriations made by the States for work within States, is it not?

Mr. MCVEY. Yes; but in addition to that I think it should be said that the problem of education should be distinctly a local problem—a State and local problem. By that I mean the variations of the problem are so great that it would be difficult for a national bill to be passed that would meet all the variations and needs of the various States.

Mr. PROSSER. Could it not be done by a scheme of administration which left to the States the exercise of a large autonomy in carrying on their own schemes and adapting them to their own ends?

Mr. MCVEY. Then you would probably fall short of bringing about what you want to do. Take the appropriations under the Morrill bill. It is only just recently the State agricultural colleges began to realize the fact that they have made mistakes in pushing their endeavors in the line of engineering and technical education instead of the field of agriculture. The reason for that is because they did not appreciate the immensity of the agricultural problem and they are only beginning to appreciate it now.

Mr. PROSSER. Of course, that involves the assumption that the State might not have made the same mistake if it had been carrying on that work without the aid of Federal funds. In other words, I am curious to know why we should assume that if the State did that thing without the aid of the National Government, there would be fewer mistakes made than if they used some Federal money in doing it.

Mr. MCVEY. Because the Federal Government imposes from without certain general restrictions and regulations which it must necessarily set up in the maintenance of that expenditure and those will be determined very largely from the vocational educational point of view on the basis of conditions existing in New York and Massachusetts and Pennsylvania, which are distinctly different from the conditions existing in the Southern and Western States.

In the first place, you shall want a great deal the type of school that will be a single school; that is, a school that is devoted wholly to the development of agriculture.

Mr. PROSSER. That is not necessarily so. There is no thought in the minds of the Commission of imposing on the State any type of schools. Suppose an administrative relationship between the National Government and the State governments were set up, whereby the national authority and a State authority designated or created by act of the legislature—such as the State board of education—should be left free under a contractual relationship to agree upon plans and procedure for the work of the State. Such a plan would not prevent the State from securing a type of school, course of study, and a form of instructions which, in the opinion of the people of that State, best met their demands.

Mr. MCVEY. I do not know that there would be any possibility of bringing about something that was worth while. I am not against that form of education which——

Mr. PROSSER [interrupting]. That administrative relationship would be possible?

Mr. MCVEY. I think so; yes.

Senator PAGE. Can you find anything in the Page bill that does not recognize State autonomy to the fullest extent?

Mr. MCVEY. In the bill that I saw, as I understood it, there was required, for instance, the existence of specific separate schools.

Senator PAGE. I do not think you have read the latest bill. I saw a letter from you which, to my mind, indicated you had not kept the pace with the travels of the bill in this uphill work, in its betterment under the inspiration of Dr. Prosser, because that bill provides that a board for vocational education should be appointed by the legislature of the States, and that while they must submit their plans to the Department of the Interior perhaps—that means the Commissioner of Education—for approval, nevertheless they are to make the plans and to take the initiative. Am I right about that, Mr. Prosser?

Mr. PROSSER. That is a correct statement, Mr. Chairman.

Mr. MCVEY. But did not that bill provide there ought to be certain schools established in proportion to certain rural population, certain schools in which agricultural and the economic arts are to be taught?

Senator PAGE. The original bill did, but as we proceeded we found that Massachusetts had but 7 per cent of agriculture, for instance, while North Dakota had scarcely anything in the industrial line, and we saw that it was necessary to leave to the States the handling of the funds, so that North Dakota, for instance, might have schools adapted to agriculture and Massachusetts might have those adapted to industrial matters. The more we studied that proposition the more we reached the view that I think you expressed, to wit, that the autonomy of the States must be preserved and protected and must be considered in this bill, and therefore I think the last edition of the Page bill is about as you would have it. That is my judgment.

Mr. MCVEY. I am very glad if that is true.

Mr. SPRINGER. You will notice the resolution that we adopted specifically recommends the passage of a law under conditions clearly recognizing the autonomy of the States in adaptation to local conditions. That was the phraseology.

Senator PAGE. The original bill provided that there should be certain kinds of schools, and I know that the State of Massachusetts specially protested vigorously against that, and finally, at their suggestion, I think, Dr. Prosser came on to Washington to confer with

me, and the bill was worked over so as to eliminate the features that were so objectionable to Massachusetts. I remember that whereas they first sent me a complete bill of their own preparation—I do not know what assistance they had, though Dr. Prosser probably helped to prepare it—and that their opposition to the Page bill at first was very severe; but at the last, when the Page bill had been revised and rewritten, Dr. Snedden sent me a telegram saying, "I hope the bill will pass without the change of a single line." Massachusetts represents the extreme of one wing and North Dakota the other, and that was what Massachusetts thought of the bill as it was finally written. I think I must get you a copy of that last bill, Dr. McVey, and ask you to read it.

Mr. McVey. I have tried to keep pace with it, but the difficulties of getting from the various secretaries, etc., the stages of legislation are more than just a little. The possibilities of being in contact with what is actually going on are not always good.

Mr. Prosser. The reason I put these questions was because I was interested in knowing where you stand personally and where your group will stand in general, on the general proposition of national grants for vocational education in the States, under a joint partnership between State and Nation suggested there in connection with these objectionable features to which you call attention.

Mr. McVey. Personally, I think the process of working, and especially at the beginning of things, through the Bureau of Education and giving it funds enough to develop the propaganda of vocational education, pointing out the needs and necessities of it, and then of working what might be called a background for it in advance of legislation for it, would be my own feeling about the matter—not that I have opposition to legislation regarding the whole matter of vocational education. I think that is something we must come to in the future, but at the same time I question the wisdom of at once moving into the field of the Federal appropriation for it in advance of careful study of the entire field, especially with its variations. That practically is my point of view in a nutshell.

Senator Page. That point of view was expressed when you were considering the Page bill as it was first written. During the progress of our work, however, we decided that whereas the appropriation for the preparation of teachers should commence in 1915, the general appropriation for pursuing this work should not take effect until July 1, 1917, two years later, in order that the matter might be thought out, in order that the teachers might be prepared and the States might prepare such legislation as they deemed necessary to put the machinery in order.

Mr. Prosser. Suppose we assume, Dr. McVey, that we all feel there is urgent need in this country for vocational education, for use of the wageworkers of every kind, on the farm and in the shop and in the factory, and that every consideration requires at an early date that form of education should be encouraged and developed and established—how long would we have to wait, without Federal grants to stimulate, for the slow process of evolution within the States to give us the thing which we need now as a people? The burden now of carrying on regular education in the States is more than most of the States are able to adequately meet under the present conditions.

The burden falls with particular force on two types of communities, the small sparsely settled community with a low-tax duplicate, on the one hand, and the center of population with the number of inhabitants increasing faster than the tax duplicate. Assuming it is constitutional to make national grants—assuming, if it were possible to wait 50 years, it would be ideal to allow this background which you suggest—can we expect, without the stimulant of Federal aid, to have this movement developed at anything like a reasonable rate of speed in this country? That is the thing that determines a great many of us concerning the matter. What you say is true, of course.

Senator Page being compelled to attend a session of the Senate, Miss Marshall took the chair and presided.

Mr. McVey. Does the experience of Germany offer any suggestion in the matter, where you have the combinations of States—not the Imperial Government, but the States, the municipalities, the guilds, and the various associations working together with the employers?

I think perhaps I have now gotten before you the point of view that I feel is the one to be carefully put before the commission—that there is such a thing as hurrying this matter too fast; that the way to deal with it is to first find out what the problem is through the medium of the Bureau of Education.

Mr. Prosser. Do you believe the Bureau of Education in Washington can inform the States as to what their problem is?

Mr. McVey. I think so; yes.

Mr. Prosser. Is not that an argument in favor of national grants, because we would create an administrative board at Washington, of which the Bureau of Education would be an integral part, which would be fully equipped to take hold of such work?

Mr. McVey. My feeling about that would be if you are going to make grants, make them on the basis of the grants to experts to develop the whole thing and stimulate the interests through the medium of the States?

Mr. Prosser. One great difficulty in most of the States now is that there is no administrative machinery in the States charged specially with the duty and responsibility for vocational education. If every State in the Nation had laws on the statute books requiring the State board of education, for example, to begin to deal with this work and to employ experts for the purpose better progress would be made. I think that expert service ought to be found largely inside the State and not altogether in the Bureau of Education at Washington. I think the Bureau of Education can be of great help, but the State needs to develop experts who are thoroughly acquainted with the State's conditions and problems. Nothing short of modest national grants, which will induce the States at the same time to establish proper machinery for the work, will get us moving in the direction in which we all want to go in vocational education.

Mr. McVey. My feeling about that is that it is not possible to stop at that point; that you are inaugurating a species of legislation that will keep on piling up, something like the national debt, because the States are not going to be satisfied with $1,000,000 a year for the development of industrial education in this country. They are not going to be satisfied with $10,000,000 or $20,000,000. If you are going on, as I suppose you are, it must be a substantial sum rather

than simply a small sum. If it is a small sum, I would rather see it put out through some Federal agency like the Bureau of Education, for the purpose of giving it certain power and influence over the States in the way of propaganda.

Mr. PROSSER. Your opposition is one to the whole idea of national grants for anything within the State?

Mr. MCVEY. Yes.

Mr. PROSSER. Including roads, education, public health, and everything else?

Mr. MCVEY. I think that is the way to put it.

I do not know but what I have now the point of view before the commission that I want to bring to them. I believe in vocational education, but I very much doubt the wisdom of large Federal grants for educational purposes; and if I may emphasize the point I made a moment ago, grants of small amounts, of $1,000,000 or $2,000,000 a year, are not going to be satisfactory, but will simply keep on increasing and increasing, just as under the Morrill bill and under the Lever bill, until you have large sums called for from the Federal Treasury. I believe that means an increase in the amount of income tax, a heavier burden upon the citizens as a consequence, and what is still more important, an inadequate result from the experiment. Through leadership, such I think as might come through the Bureau of Education, we would get that.

Mr. LAPP. Do you believe in State grants to localities for the development of vocational education?

Mr. MCVEY. That is done.

Mr. LAPP. Do you believe in trying to bring about the development in that way?

Mr. MCVEY. Yes; because the question of education is a State educational question.

Mr. LAPP. Why do you say it is a State question?

Mr. MCVEY. Because the problem is necessarily a local one, to the people who live within the distinct territorial district. For instance, if you will take the students in universities and colleges, you will find the large majority of them come from within an area of 100 or 200 miles of the place where the school is located.

Mr. LAPP. Is it not true that the result is as much a national result as it is a local result?

Mr. MCVEY. Yes; but you are getting the national result without bringing the Nation into things.

Mr. LAPP. What particular harm is there in bringing the Nation in? Why does the State consider it as its distinct function?

Mr. MCVEY. I must admit we are rapidly passing beyond the point where the line between the National and State Governments is observed any longer. The States are losing their autonomy, and increasingly so. Further than that, the expenditures of the Federal Government have grown with leaps and bounds, and we are just now entering upon a field of expenditure such as seen in this recent road law, and we now have seen it, to a greater or less degree, in the appropriations being made for educational purposes.

Another feature: If you will observe the interstate-commerce act, the various banking acts that have been passed, and some of the other laws after they are once on the Federal statute books, it takes years and years and years to perfect them. In other words,

if they do not change and adapt themselves to changing conditions and try to develop an educational system—and this is just an entering wedge in the whole educational system to control it through Federal authority, and whatever we may say now regarding State autonomy it is only a question of time until the Federal Government will be compelled, in the administration of its funds, to centralize that administration at Washington.

Mr. PROSSER. That is a pretty strong statement to make.

Mr. MCVEY. That is only my belief.

Mr. PROSSER. That is only your belief, and it is not based on anything more than that?

Mr. MCVEY. It is based upon a course of some study of the procedure, but beyond that is simply my belief. I may be absolutely wrong about it.

Mr. PROSSER. Of course, the Government in 1861 began grants to the agricultural and mechanical colleges of the country, and they have been followed by a succession of additional grants. Entirely separate and apart from the question of whether or not that money was wisely given, it still remains true that while more than half a century has gone by the educational system of this country is not under the control of the National Government—a half century after such an entering wedge.

Mr. MCVEY. That is true.

Mr. PROSSER. Might we not predicate, based on past history—for we can only be guided by the light of experience—that if you were to give money out of the National Treasury for the training of people who have gone to work, a field which the schools have practically not entered at all, that we need not assume this to result in a complete capture of the educational systems of the country by the National Government?

Mr. MCVEY. But you must remember, I think, another feature, and that is that 50 years is a very short time in the history of a country. This is simply the beginning of things, of the entering of wedges. I do not think I need tell you who are assembled here that the tendency of the Federal Government toward constant centralization is a very marked feature of present-day history.

Mr. PROSSER. Do you object to that yourself?

Mr. MCVEY. I certainly do; yes, sir.

Mr. PROSSER. You feel the ancient idea of what the Nation should be in its relation to the State should be preserved?

Mr. MCVEY. I would not call it the "ancient" idea. I think there is a balance of relationship there that should be preserved.

Mr. PROSSER. And some questions that need to be handled for the good of the country must not be handled because of that inevitable expansion of ideas regarding the Nation?

Mr. MCVEY. I would not put it that way. That is hardly a fair statement. We are getting into an argument over a constitutional point of view. I have been a Republican all my life, and it sounds very much like Democracy, does it not, as I am putting it? But these lines are being wiped out. That is my point of view, and I think it represents the point of view of the men associated in a measure with the separate State universities. I may be putting it too strongly.

Mr. PROSSER. You said a moment ago that this matter of education was a local question for the States. That has disturbed me a little

bit. On an average, about 75 per cent of the men in many cities that work in a given locality were not born and reared in the place where they are now toiling; that they were secured from elsewhere; that they secured their training elsewhere, sometimes inside of the same State, sometimes in other States. They are almost as migratory as birds. A great construction company, for example, in New York City, will, in the course of a single season, send men gathered from a dozen States into another dozen States to do work. In that sense, all State lines are broken down. It so happens, for example, that Massachusetts has trained the machinists who are working in the construction of automobiles in Detroit. They practically all got their training in Massachusetts and in New England. They were sent out literally by the hundreds when automobile factories were opened up. Does not that raise the very grave question as to how far we may expect any State, as a separate community, to bear the entire expense of preparing workers, when it knows that as soon as they are prepared they will drift away to other States and give their better citizenship and better workmanship to other centers? Does not that raise the whole question of vocational education from a local question and a State question into a National question, as we understand it?

Mr. McVey. I do not know that it does. The same thing might apply to professional education or education of any kind—banking or whatever it might be—education of almost any sort. We are a migratory people. The average man lives on a farm in this country—that is, his own farm—but 13 years. The average tenancy on the arms of this country is barely more than three years. We are a migratory people, constantly moving. What I do not want to see is the responsibility of a locality to its specific problems broken down. I believe that the problem can be met more efficiently and satisfactorily by taking care of itself than it can by bringing in the authority and power and the appropriations of the Federal Government.

Mr. Winslow. Do you realize there are 150,000 men in the city of New York in the building-trades craft, but not 5 per cent of them ever received their education in the city of New York?

Mr. McVey. I presume that is true.

Mr. Winslow. And that the large construction companies of the United States travel all over the United States?

Mr. McVey. I have no doubt that is true.

Mr. Winslow. Do you think New York ought to bear that burden alone?

Mr. McVey. Yes, I do; because we are bearing New York's burden. We are contributing to New York all the time all over the country in many, many ways.

Mr. Prosser. Do you feel like asserting that principle no matter how long it might take a State to meet this problem?

Mr. McVey. I do not want to put down any hard and fast method of procedure. It might be I would go right straight with you, but what I want you to do now, if I could have my way here about it, is to give the Bureau of Education, or such other bureau as you might designate, a fund of money, with properly equipped men and women to study the problem, to get at it and find out what it is. One of the things that we do in this country all the time, just as we are doing in regard to the Fletcher bill, is to legislate and then find out what the

conditions are for which we have been legislating. Vocational education is something that is going to be here after we are gone, a thousand years after that, and another thousand years after that; and the question of starting out in the right way is the biggest question with which this commission is face to face.

Mr. PROSSER. I think that is true.

Miss MARSHALL. May I ask why you think it is the duty of the Federal Government to find out what the States need and then not do anything for them? Why should not the States take the responsibility of discovering their own needs?

Mr. McVEY. I think the Federal Government's greatest part is in opening up the way through its larger experience and better organization, to point out the way and show us where we can do these things for ourselves.

If I may parallel that, take the question of the whole matter of this banking bill, the Fletcher bill. There are certain men who say we ought to loan money direct from the Treasury of the United States. There are certain other men who say we ought to rely upon the local bankers to supply the needs. There are certain others who say that we should rely upon the farmers to secure the necessary funds for themselves. Those are the people that have the largest support, first, by the history of Europe in Germany, Denmark, Norway, Sweden, France, and so on; and also from the point of view of the larger number of people who have thought about it in this country. The principle that is there seems to me to be just as sound in the field of education as it is in the field of finance. The Federal Government can do, through the process of supervision and through the process of education, through the process of suggestion, the thing that ought to be done, and it will get larger results than it will by giving out some little meager appropriation, as has been suggested, in a specific instance.

Mr. PROSSER. May I suggest another parallel to you?

Mr. McVEY. Certainly.

Mr. PROSSER. The Department of Agriculture has piled up in its archives for years much valuable scientific information. There is enough of it down there to employ an army of men for 200 years in getting it down into the minds and plowhandles of the farmers of this country. Finally there came the simple plan provided for by the Smith-Lever bill, providing national grants for extension work among the farmers. It took that procedure to get all of that century of knowledge down to the farmer.

Mr. McVEY. The problem of extension work among farmers has been in process at least five or six years before the Lever bill was brought into being. In Minnesota and in North Dakota they have had this administrative work carried right to the farmer and have worked at it for themselves long before the Lever bill was thought of.

Mr. PROSSER. But that also was under Federal stimulation.

Mr. McVEY. How so?

Mr. PROSSER. Is not that true?

Mr. McVEY. No.

Mr. PROSSER. Was not that given out through the agricultural and mechanical colleges?

Mr. McVEY. No; it was given by State appropriations in the case of Minnesota. Wisconsin appropriates something like $70,000 a

year for extension work among the farmers; Minnesota practically $50,000; North Dakota about $20,000.

Mr. PROSSER. Let us exempt those States from consideration. Neither of those States will we consider now. How many of the other States are there? How many of those States are there in all?

Mr. MCVEY. How many are doing that?

Mr. PROSSER. Yes.

Mr. MCVEY. I could not answer that question.

Mr. PROSSER. Very few of them are doing the work, are they not?

Mr. MCVEY. I do not know.

Mr. PROSSER. Is there considerable extension work? In the judgment of the people who have put through that bill, backed by a tremendous public sentiment all over this country, it was necessary to get Federal grants to make any use of that knowledge. Suppose the National Bureau of Education and other Federal bureaus were given a lot of experts to use in helping the States. I think the Federal bureaus can do much, but they can not do the actual work in vocational education for the States. There is a place and a large one for the Bureau of Education and other bureaus in helping the States, but I believe little will be accomplished unless their efforts go along with some stimulus to encourage the States to take up the work. I have traveled all over this country in the last two years. I have been in every State in the Union, and I suppose I have traveled 100,000 miles. I have seen conditions everywhere. I do not believe many of the States are ever going to get started into this work as they should without the national grant. I thoroughly agree with your suggestion about having the Bureau of Education and all the other bureaus in Washington do all they can.

Mr. MCVEY. I am glad you spoke of that matter of the lapse of time. Prof. Maphis will speak on that question.

We had a grant of $2,500 a year in North Dakota for agricultural schools wherever they had an agricultural department. There were five schools designated. What is the biggest problem we are face to face with? Teachers. Where shall we get our teachers?

Mr. SPRINGER. That is always true of any new movement.

Mr. MCVEY. There is no great haste over this thing.

Mr. WINSLOW. I think we all realize that, and have for five years—that there was an excitement concerning vocational education. People want a lot of money and perhaps you would be interested to know that there are people around this table who have been putting on the soft pedal with reference to the Federal grants.

Mr. MCVEY. I am glad of that.

Mr. WINSLOW. Senator Page told you before he went out that the question of teachers interests us to a very considerable extent. It is a big question as to what should be done, and whether or not the time should be extended very much further along for the grants for teaching the vocational educational matters.

(At this point Senator Page reentered the hearing room and resumed the chair.)

Mr. MCVEY. I am very glad to know that. I do not know that there is such a vast amount of difference in the point of view between this commission and myself. My feeling about your point of view, which we tried to get at and which is exceedingly difficult to get at

by the process of letter writing, has been materially modified in my own mind by this discussion that we have had here to-night; yet at the same time I feel that my point of view on the general fundamental background is one that should be given consideration in the discussion of this whole matter.

Miss MARSHALL. I would like to ask one more question. I understand that you think the acts we have had so far providing for Federal grants have been mistakes. Do you think we would have been as far advanced in the States if it had not been for those acts?

Mr. MCVEY. I would say this in reply to that question: If the Federal Government had definitely designated a way in which that money should be used, we would be further along than we are at the present time.

Miss MARSHALL. But if it had been left entirely to the States to take that initiative without any stimulus from the Federal Government through grants—this is merely conjecture, but I would like to know whether you think we would have been as far advanced and whether we would be ready to do some things we are doing today if it had not been for the aid of the Federal Government?

Mr. MCVEY. In the first place,the Federal Government gave land for the creation of universities. The mistake was made where the agricultural college was divided from the State university and located in a separate place. There is no question about that. That ought to have been prohibited by Federal legislation.

Senator PAGE. The division, you mean?

Mr. MCVEY. Yes.

Senator PAGE. Dr. McVey, that was a fight that was a hard one in my State. I was governor when it came up in 1890, just after an additional appropriation had been granted, I think, in 1888 or 1889. The farmers in our State were very much dissatisfied with the way the funds derived from the Federal appropriation had been used in technical education of a high order, and it was only after a very severe fight that we consented that the University of Vermont and the State Agricultural College should be continued as one institution. In New Hampshire the two colleges were at first united, Dartmouth and the agricultural college, but later they separated. In Maine the agricultural college is conducted as a separate institution, and I think the same is true in Rhode Island.

Mr. SPRINGER. Yes; Rhode Island separated.

Senator PAGE. The facts are that my anxiety in regard to this fund has been increased because, under the old régime, they diverted the fund to other purposes than that for which Mr. Morrill designed it.

Mr. MCVEY. That is the thought I have in mind. If the legislation had been more distinct and definite, that would not have been possible.

Mr. LAPP. Referring to your suggestion about teachers: Is it not true that the reason you could not get teachers was that you did not have funds sufficient to hire the class of teachers necessary in North Dakota?

Mr. MCVEY. I think not.

Mr. LAPP. We had a similar experience in Indiana, which provided for county agents who were a high type of agricultural teachers, and it was suggested that we would have difficulty in getting men. We

had available $2,500 in each of 30 counties to offer a man as county agent. Purdue University had the designating of the men. They had a little difficulty. They filled 30 places. They expect to fill 30 more next year with a very high type of practical instructors in agriculture.

Mr. McVey. I understand.

Mr. Lapp. We did not find it so difficult; but those people do require much better salaries than the average teacher.

Mr. McVey. I understand that; and yet at the same time I think that the experience has been that the teachers are not forthcoming.

Miss Marshall. Is it possible to train teachers for positions when there are no schools? What are the teachers going to do if they are just trained at a risk and do not know whether or not they will be in demand to fill positions later?

Mr. McVey. Your question is a good one. I do not know as I should regard it as wholly fair. Of course there must be a field, and it takes time to adapt it to a field; but just as soon as we begin to know what the field is, then the preparations will go on. There is a very rapid development along that line.

Miss Marshall. Unless something is started, how are we going to get the right sort of persons unless they know they will have the opportunity to teach? In the industrial field, I think, that is something we are facing. There are various experiments in training teachers for industrial schools for girls, and there are very few schools, and there we are. We can not get the best type of person to come in and train, because they say, "Where is my position?"

Mr. McVey. That is true. Those positions have to be opened up.

Miss Marshall. If there were not some stimulation to start schools right along with the training of the teachers, it is a question in my mind whether the teachers would become interested in the matter. It is a question, I think, whether the teachers should be trained first or whether the organization of schools and the training of teachers should not be started simultaneously.

Mr. McVey. My feeling is the opening should be first and the teachers afterwards.

Miss Marshall. That is my point.

Mr. McVey. The opening should be clearly enough defined and understood by the laying of a foundation that shall be wide and broad and big.

Miss Marshall. So one would expect to have some struggle at first in any new type of school to get the right sort of persons as teachers?

Mr. McVey. Certainly.

Miss Marshall. The moment schools are started the need of the right sort of teachers arises, and then comes the preparation of these teachers?

Mr. McVey. Unquestionably that is true. Any scheme of change in education results in difficulties and various obstacles, unquestionably. There is involved in this whole matter of vocational education the question also of the economy of time in education, which we have to work out.

Senator Page. Dr. McVey, in all the hearings and discussions and correspondence I think the prevailing idea coming from four people

out of five who have presented anything on the subject has been that the serious trouble with this whole scheme was that we had not the teachers and could not commence this work at present; that we must first fit the teacher, and then take up the general work; we must provide the general work, vocational teaching, or else the teachers would not prepare themselves, because they would not prepare for something which they did not know there would be a demand for when they had fitted themselves to do the work.

Mr. McVey. Yes; that is undoubtedly true. Is this question being approached from the point of view of providing places for the teachers, or is it being approached from the point of view of training young men and women to fill positions that are of a vocational character?

Mr. Prosser. Do you mean in so far as the work of the commission is concerned?

Mr. McVey. The individuals and groups of individuals. It would seem to me the real approach to this question is not from the point of view of whether there are any groups of people ready to teach or likely to be ready, but from the point of view of inquiring if there is a great group of people needing education along this line—vocational education.

Miss Marshall. First, we must get practice work in the schools in order to develop methods, and all that sort of thing.

Mr. McVey. Mr. Chairman, Dr. Weber is compelled to leave on the 10.30 train, and he would like to have an opportunity of saying something before he leaves.

Senator Page. Very well; we will be glad to hear from Dr. Weber at this time.

STATEMENT OF DR. S. E. WEBER, PROFESSOR OF EDUCATION AND DIRECTOR OF THE SUMMER SESSION FOR TEACHERS.

Dr. Weber. Mr. Chairman, I simply want to raise a question with reference as to how this problem affects the State agricultural and mechanical colleges?

Senator Page. Will you please give your name and address, and the official position which you occupy?

Dr. Weber. S. E. Weber; Pennsylvania State College; professor of education and director of the summer session for teachers.

Senator Page. And your post-office address?

Dr. Weber. The State College of Pennsylvania.

I am particularly interested in this particular problem from the teachers' training point of view. The problem has crystallized itself at the Pennsylvania State College to a certain extent that we have not been able to fill positions that have been offered to us in the last two years that I have been directly connected with the Pennsylvania State College summer session.

The Pennsylvania State College now partakes of funds given by the National Government through the Morrill Act, the Nelson Act, and other acts. We have been preparing people in the industries, and our graduates in the school of mines, our graduates in the school of engineering, and natural sciences and agriculture, have had positions before they came to graduate.

Mr. WINSLOW. I would just like to ask Mr. Weber if he understands the term "industries" as the higher school of education? You say you have been training teachers in industries?

Dr. WEBER. No, not teachers, but our graduates have gone into industries. We have not been training teachers. When I went to the Pennsylvania State College four years ago——

Mr. WINSLOW (interrupting). I misunderstood you entirely.

Dr. WEBER (continuing). We had only nine teachers, graduates of the Pennsylvania State College, in the whole State of Pennsylvania. That is, the State Agricultural and Mechanical College has done nothing for the preparation of teachers for the teaching of vocational education. Last year, I suppose, we could have placed three times as many teachers as we had available, because of the fact that the industries had been paying better than teachers' positions in vocational education. There is no inducement for people to go into the teaching of vocational work. So, through the cooperation of the State board of education, we have been able to stimulate educational work through our summer session more than through the regular session. As a matter of fact, we have induced a large number of teachers, almost 600 last summer, to come and begin to take vocational training from the teaching point of view in agriculture, in domestic arts and domestic science, and in manual training.

Mr. PROSSER. What you have in your summer school is the regular teacher in the regular public schools who comes to be prepared to teach public-school gardening and a little work in home economics and a little work in manual training, which is really prevocational education.

Dr. WEBER. It would have to be called that because of its preliminary character.

Mr. PROSSER. To what extent have you been able to get hold of skilled mechanics from the trades in the Pennsylvania State College?

Dr. WEBER. I think last summer we probably had half a dozen men who had not had any teaching experience at all.

Mr. PROSSER. But who had been in the trades?

Dr. WEBER. Who had been in the trades and had come over there to take our course in manual training for teaching. They were going out as manual-training teachers.

Mr. PROSSER. But they would have been competent men to give practical instruction in the shop?

Dr. WEBER. Yes.

Mr. PROSSER. How many men do you have in your winter session who have had experience in the trades?

Dr. WEBER. I should think now in our school of engineering a half a dozen—that is, who are preparing to go into teaching, who are now in the manual-training course with a view to teaching.

Mr. PROSSER. Are they pretty high-grade men?

Dr. WEBER. I would not call them high-grade men, because most of them have not had the equivalent of a high-school education.

Mr. PROSSER. Are they high-grade men in their trades—successful in their trades?

Dr. WEBER. That is what the school engineer told me—that they are high-grade mechanics.

Mr. PROSSER. When you find a mechanic who is making $1,200 or $1,500 a year, it is difficult to get him to forego that salary and bring his family down to the college and stay there for two years to get pre-

pared to be a teacher. This is particularly true when we must tell him his salary as a teacher will probably be less than as a mechanic and that he must take his consolation in the other rewards of teaching. He universally says, "Please excuse me." [Laughter.]

Dr. WEBER. You have the same situation I had in Philadelphia in the high school and normal school a few years ago. That was a question whether the graduates should take positions after they had finished the commercial course or take the high school first and two years in addition to it to prepare themselves to teach and get less salaries than the girls could get when they finished the commercial course. The trouble was, in that particular case, as in every case, that the girls got such salaries upon completion of the commercial course that there were no girls for teaching in the city of Philadelphia at the salaries they were paying for teachers. It is an economic problem.

Mr. WINSLOW. That is true of the man in the building trades, getting 60 or 75 cents an hour. He is not going to spend six or eight months or a year being trained for teaching. He has a prospect for 20 years more in his trade, and he does not know whether he will get $800 or $900 or a $1,000 a year if he happens to become a teacher. He usually stays in the trade.

Dr. WEBER. I must confess also that I am a believer of the influence of the central department, as it was illustrated in my experience in Louisiana while I was State high-school inspector. With the amount of money that the State legislature distributed through the State department of education we were able to do within a few years what it would have been impossible to do in Pennsylvania, my own native State, in 50 years, by reason of the fact that we had not precedent to overcome—we had not prejudice to overcome. That we accomplished, too, with stimulation from the Central Government.

I believe this particular vocational fund, if it should be set forth as available through a bill of this sort, would do for the teaching of these vocational subjects in the high schools and in the normal schools, in the preparation of teachers in the State agricultural and mechanical colleges and State universities and in the normal schools, what we have been able to do for industries by stimulating that side of vocational work. We have simply attacked this problem from the point of view of introducing in down lower in the schools. To my mind, the time has come to do that very thing.

Senator PAGE. Your State has been very progressive, so far as I have observed, in regard to this mattr. I know your State board of education have been very helpful to me. They have not only made suggestions, but they have resolved repeatedly that they were in entire harmony with this proposition

Dr. WEBER. Yes.

Senator PAGE. And they have written to their Senators and Representatives, who have responded by supporting the vocational-education measure.

Dr. WEBER. In contradiction partly of what has been Dr. McVey's experience, the Pennsylvania State College in its school of agriculture had been doing a great deal of extension work at least six years before we were able to get a cent of money from the State legislature. And at the last legislature we were able to get $20,000 for extension work

in the school of agriculture, but for none of the other phases of college work, and up to that time the extension work had been made possible by the funds realized from the National Government.

So that it appears to me that this propaganda could be furthered by taking the particular condition in which we find vocational education at the present time and encouraging it from its foundation; stimulating, for instance, these courses in the summer session; stimulating these smaller movements in the regular session to have men and women go into these particular schools and teach vocational subjects where they are willing to teach for the salary that is now available for them. But, at the same time, if a bill of this sort is passed and funds are made available from the National Government in conjunction with the State government there would be certain higher standards, and the quicker we get to them the better for us all. That condition will demand adequate salaries to be paid to these adequately trained people, and not until then will we have vocational education that we can call of the same standard, of the same quality, to which should be given the same time in our educational economy as we have been giving to the longer-established subjects.

In other words, I do not believe in assigning the same value to vocational work in schools at the present time if the quality of that vocational work is not determined and organized and the teaching of that work is not on the same standard as the teaching of the more established subjects. That is a process we shall have to go through in these newer subjects the same as we had to go through with it when the sciences were first introduced into our courses of study.

Mr. SPRINGER. And eventually they will reach a high plane when they have gone through the process.

Dr. WEBER. Yes. Now, I have been discussing with the students in the courses on education the value of a general education compared with an industrial education—a vocational education—and in the last two years I have not been able to get a single student in any of my courses in education to admit that he would not be better prepared for having had a better foundation of training before he had specialized in his particular course. In fact, these men and women who are taking vocational courses in the college—not one of them but will stand for the general training to precede the more specialized vocational training.

The point I am trying to make is this, that parallel to that must come this standardization of this vocational work, the raising of it in quality and providing the machinery for having it given the way you want it given.

Mr. PROSSER. You will raise it in quality, Doctor, to a very great extent, as the result of long, laborious, and painful experience. Those of us who have been engaged in the work realize that. It can not be done by Government fiat alone; that can help, but we have to get at the job, and we are going to learn how to do it by doing it. I do not believe that any State that waits 25 years to get into this work will save itself the painful experience of going through all the stages that every State has to go through in finding itself in this movement.

Dr. WEBER. If we wait for that, the movement will be retarded 50 or 100 years, just as it has been with some of these other movements. That is my opinion.

Another thing I should like to mention before I sit down is that not only do you have to establish the quality of this work and the standards under which it is to be done, but if we are going to avoid friction and annoyances and expense and unnecessary duplication in the various States there will have to be determined what is the particular function of the normal school in providing some of this training, what is the particular function of the State agricultural and mechanical college in providing some of this training, what is the particular function of the State university—and there I can see a possible conflict between the State university and the State agricultural and mechanical colleges where those two institutions are divided.

Senator PAGE. You are speaking now with reference to the preparation of teachers?

Dr. WEBER. Yes.

Senator PAGE. That is a matter about which we had a little discussion before we passed the bill, and I think it was Senator Jones, of Washington, acting in conformity with the request of the University of Washington, who asked that the bill be so amended that the university in his State, which had a department devoted to the education of teachers, receive the benefits of the Page bill. It was thought by that university that it would not be permitted to participate in the appropriations made by that bill, and an amendment was made so as to permit the University of Washington to participate. My idea at that time was that the college over which Dr. McVey presided would also come in and participate. Do you remember having correspondence with Mr. Gronna about that?

Dr. MCVEY. Yes.

Senator PAGE. I know that Senator Jones, acting under such advice as the University of Washington gave him, prepared an amendment which, I understand, was satisfactory to that university, and it seemed to me that it might perhaps be satisfactory to you, although I did not personally correspond with you very much about it.

Dr. WEBER. There is a question, Mr. Chairman, that I wanted to raise here with reference to this problem of teachers' training. I can see very little difficulty in an administrative way in solving the problem, so far as the normal school is concerned in preparing teachers in the elementary grades to teach some of this vocational work for the children in those grades. But now here is the Pennsylvania State College, with which I am more intimately acquainted than with the institutions in some other States. It has a well-equipped school of agriculture. It has a well-equipped department of home economics. It has an exceptionally well-equipped school of engineering. It has a well-equipped school of natural sciences and one of mines.

Now, shall that particular institution be given a place in this particular provision for the training of teachers along vocational lines—shall the teachers' training department be put into operation in conjunction with this other equipment, or shall these funds be given to the University of Pennsylvania or to the University of Pittsburgh, neither of which is half so well equipped along most of these lines as we are at the Pennsylvania State College? Or shall they be limited to the training of professors, superintendents, and so on, in the line of doing post-graduate work, giving post-graduate courses; and shall the Pennsylvania State College prepare teachers for secondary

schools? I am just asking that question. It is a very pressing problem to us, I am sure.

Representative FESS (presiding). Mr. Prosser, what do you think about that?

Mr. PROSSER. The question that Dr. Weber raises is an exceedingly difficult question to answer in a comprehensive way for 48 States. It would be easily possible to draft legislation at Washington meeting the situation in any one State. The great difficulty lies in the fact that conditions vary so greatly. There are normal schools in some States that are pretty well equipped to deal with the training of teachers for some of this work. There are other States where the normal schools would be utterly inefficient in handling the problem. There are States where the agricultural and mechanical colleges are exceedingly well equipped to do this work. There are other States where, to say the least, they have rivals. There are States where some of the work could be well done at the State university. There are other States where the State universities would not be justified under present conditions in asking a chance to play a hand in the game.

Now, the way to answer your question is by asking another one. What would you think of this: Give a limited sum to the State board of control for the purpose of training teachers, and let that State board of control in the exercise of the autonomy of the State disburse that money to approved schemes for the training of teachers in whatever institution it might elect?

Mr. WINSLOW. Provided they leave politics out of it.

Mr. PROSSER. Provided they leave politics out of it. In other words, why not transfer the battle ground on that question to the State authorities? It is a question the national authorities can not handle. If you do not do that you will have to provide in your bill for so much money to be spent in State normal schools, so much to agricultural and mechanical colleges, and so much to educational departments of the State universities. There are a few States in the Union that believe the training of the men for the trades and industries must be done in separate schools set up for that purpose. I have no doubt that in Masschusetts, for example, they may wish to set aside perhaps an old normal school, or something of that kind, located in a city where there are industrial and trade schools, where adequate trade work can be secured, which will be used for the purposes of training these teachers. You may call that a normal school, but there is nothing but the building left of the original school.

So it is impossible, it seems to me, Mr. Chairman, for the National Government to say which institutions may spend that money, but the National Government might well say to the States, "Here is so much money alotted to you. It is for your State board of control to use in stimulating the training of teachers." Then any institution within the State would be required to show the State board of control why it should have the money.

Dr. WEBER. I should like to ask you another question.

Mr. PROSSER. I am asking you a question. What do you think of that?

Dr. WEBER. The question that comes immediately to my mind is again a local question—I think it is largely limited to Pennsylvania—because in the one case you have an institution that is a State institution, supported by the State and National Governments wholly.

In the other two cases you have institutions which have received a State subsidy that have been under the control of a privately perpetuating board of trustees.

Mr. PROSSER. That means that you would recommend that this money be disbursed only by the State board to training schools supported by the public?

Dr. WEBER. That is exactly the point.

Mr. PROSSER. The Page bill, I might say, did that. It absolutely prohibited private institutions from receiving grants out of this national subsidy. I think that was in the bill, if I am not mistaken. Am I not right about that, Mr. Fess?

Representative FESS. I am not sure that that is right.

Mr. SPRINGER. It was there at one time.

Representative FESS. Mr. Springer, have you anything upon that question?

Mr. SPRINGER. I think, in my own judgment, that is the only solution of the one problem of the expenditure.

Mr. WINSLOW. And then it will not always be wisely spent. For example, I happen to know a normal school that has an attachment to it known as a model industrial school to train teachers for the industries, presided over by a very excellent woman, who happens to be a drawing teacher—wanted to be an artist—but I question whether she has done very excellent work in that particular school. But the funds from that particular State might go to that particular school.

Mr. SPRINGER. The State board of education, however, I believe, is the most competent to determine.

Mr. PROSSER. But no matter how you draw that bill, Mr. Winslow, this perfectly good normal school would still get some of the money.

Mr. WINSLOW. Certainly, and there are very excellent reasons why in that particular State.

Mr. SPRINGER. Would you not, as a rule, get a better adjustment in that way? There would be a few cases where perhaps what you suggest would be true, but the national board would not be in possession of the facts throughout the entire country that would enable it to make as wise a selection.

Mr. WINSLOW. It would be a more nearly perfect proposition.

Dr. WEBER. My belief is that there will be less politics in it if there is a string attached to it coming from the Federal Government, because when you get near home to a constituency that is continually pulling at you you are very likely to give way. Some experience with State boards of education has convinced me that they are keeping their ears close to the ground.

Mr. SPRINGER. Of course, if you want to get absolute control, you want to get the Carnegie foundation people to run it, because they form the strongest educational trust in this country.

STATEMENT OF DR. CHARLES G. MAPHIS, PROFESSOR OF SECONDARY EDUCATION AND DIRECTOR OF THE SUMMER SCHOOL, UNIVERSITY OF VIRGINIA.

Representative FESS (presiding). Prof. Maphis, before you proceed will you please state for the record your name and the capacity in which you appear?

Dr. MAPHIS. Charles G. Maphis, of the University of Virginia. I am professor of education in the University of Virginia. I am also a

member of the committee of which Dr. McVey is chairman, representing the State universities as unattached to agricultural and mechanical colleges, but I am also appearing here as a member of the committee from the Association of College Teachers of Education, which, I believe, is a part of the National Education Association.

Mr. SPRINGER. That is an affiliated society.

Dr. MAPHIS. I am, however, speaking largely my own personal views. I have had no conference with members of any committee, except a very brief conference with President McVey this evening.

I was to discuss very briefly teacher training, but I believe I heard about six weeks ago Mr. Winslow very bitterly complain of his friend Mr. Prosser for taking all of his speech away from him; and with all of the questions and answers which have been arising we have anticipated most of the things I had in mind to say.

But I am going to assume we are going to have Federal aid for vocational training. We will settle that question for the moment, and my remarks will be based upon the supposition that there is to be Federal aid for vocational training. I come from a State rights State, but if we are going to have Federal aid for roads, Federal aid for agricultural and mechanical colleges, Federal aid for agriculture, Federal aid for health, and probably for other things, I shall not object very seriously if some of that Federal aid comes to the schools. That is my individual position.

But as a part of a Federal system of aid to vocational education I want to lay down this first principle, that teacher training should become an important, a very important and fundamental part of such a system, and I base that on the following reasons:

Teacher training is fundamental to the success of any general system of education, and is therefore fundamental to the success of a plan of prevocational education; and that is borne out by the various experiences related here to-night, and it is borne out by observation of our experience in all lines of education. Although our public-school system has been established for years, the greatest defect of that system now is lack of trained teachers in all departments of our public-school system. The elementary schools need trained teachers, high schools are suffering from the want of trained teachers, and the colleges are suffering from the want of trained teachers.

Mr. SPRINGER. And the universities still more.

Dr. MAPHIS. When I said colleges I, of course, had in mind the universities too. The training of teachers must, therefore, be an important and fundamental part. Now, let me give you a few examples on which I base that remark. Some of them have been already cited.

The agricultural schools have been cited. I will give you the experience of Virginia, and that has been the experience of most of the States of the South. We attempted some four years ago to create an interest in agriculture by establishing agricultural high schools. Instead of establishing one or two or three or four, we did as our legislature generally does—established too many. We established 10 at one time, and those schools have not been universally successful, because, although they are only 10 in number, we have not been able to find 10 good trained teachers and leaders for this new form of work.

Representative FESS. Professor, may I interrupt you? Did the law limit you to 10, or was it merely permissive?

Dr. MAPHIS. No. Our State is divided into 10 congressional districts, and each is a political division, and one said to the other, "You shall not have an agricultural school unless we have one." Just to go back a little further in our educational history, we wished to establish one additional normal school some four or six years ago, and we had to establish three at one time.

Mr. WINSLOW. They had to do the same thing in Massachusetts.

Dr. MAPHIS. I am told on reliable authority that that has been the experience in other States. Mississippi has the reputation of having some good agricultural high schools, yet there are some there that are suffering from the same reason. They have not trained teachers at the head of them. It is also true in North Dakota, as Dr. McVey has said, and Dr. Denny tells me it is true in Alabama.

But we must not lose sight of the importance of the fact that the trouble lies in establishing a general scheme. That brings me to the question raised by Miss Marshall, I think, whether we should establish the teacher training first or the schools first or both together. I am inclined to think that the sensible, the reasonable, way to do it is to do both at one time. And, as Mr. Prosser says his experience has indicated, we can not train the men until we have the positions in sight for them. It is certainly disastrous to have too many schools established before we have the trained people.

So I believe this must be a gradual growth, and if Congress does give aid to vocational training and we give large sums of money to the States for this purpose, much of it is going to be wasted for a good many years, and it is for the commission to determine which is the important feature, whether a sum sufficient to establish a large number of vocational schools is the best thing, or a sum sufficient to establish schools for the training of teachers to direct those schools. In any case, we must not lose sight of the importance of teacher training, and I dwell on that, Dr. Prosser, from the fact that in the former bills no notice was taken of a provision for the training of teachers for the vocational work which was provided.

Mr. WINSLOW. In the original bill?

Dr. MAPHIS. Yes; in the original bill.

Now we have hit upon a plan in training our teachers in the elementary schools which is working very well in a number of the States. We found the normal schools could not provide all our teachers, and we have hit upon the plan of having normal training high schools which are giving some modicum of professional training, and they are turning out actually more teachers than the normal schools themselves. In some instances the teachers are better. That is not generally true, but it is certainly better than no training whatever.

In our State that system was begun four or five years ago, and we, last year, turned out 250 teachers, and they are going into the rural communities and are doing good work in that line. So that there must be numerous and various agencies for this teacher training. It can not all be done in a particular kind of institution.

Mr. PROSSER. Dr. Maphis, for what particular lines, for what particular types of teachers do you believe the education departments of State universities promise good training?

Dr. MAPHIS. I will answer you that from our own experience. Our department of education in our State university is just beginning. It is young. We will really be organized for the first time next fall.

We, of course, have in mind now the training of administrative officers of high schools, principals of high schools, and teachers. You understand, of course, our institution is an institution for men only; it is not coeducational, but this is the point I would make in answer to that question. If the right type of training is not provided in the institution already established, then the kind of training which is desired should be provided, engrafted on that system, and not create a new institution for the training of that type of teachers. In other words, if we are not training teachers in the department of education in the University of Virginia to fill the positions which will be created by the establishment of these vocational schools, then if we are to fulfill the real function of a university and a State institution—and that is to meet the needs of the people—we must change our work and give such training as will provide these people for these particular positions.

Now, our work in teacher training would be determined largely by the character of the vocations which are set forth and provided for in this bill.

Mr. PROSSER. Well, suppose you wanted teachers of industrial and trade subjects—machine shop, carpenter shop, pattern shop, electrical working shop, blacksmithing, textiles, shoe working, jewelry working, printing—would you regard the preparation of those teachers for service in such schools to be a part of the work of the University of Virginia?

Dr. MAPHIS. No; I hardly think so, and I probably would have brought that out a little later. The training for the various occupations you have mentioned would be confined very largely for the benefit of those young men living in larger cities and the larger towns. Now, I take it that the vocational training in the South and a large portion of the West for a long time to come is going to be very largely in agriculture and the domestic arts, because we are still a rural country. Eighty per cent of the population, I believe it is claimed, is rural, and we have not so large a number of cities and large towns as you have in New England.

Senator PAGE. Are you certain about that number? I thought it was less than 60.

Dr. MAPHIS. I am not certain. I am quoting it from hearing it frequently, and I have not verified it. Our towns in the South are growing, and I presume the percentage would vary rapidly.

Mr. PROSSER. You mean the rural population of Virginia?

Dr. MAPHIS. I am speaking of the South as a whole.

Mr. PROSSER. Of the whole country it is almost half and half.

Dr. MAPHIS. I was speaking of the South. I say that the vocational training, I think, in the South and parts of the West will certainly be largely in those vocations except in the cities and the larger towns, and I presume that this bill would be broad enough to provide vocational training for the people of the whole State.

Senator PAGE. And what you say with respect to Virginia would be equally true, would it not, of the institution over which Dr. McVey presides in North Dakota?

Dr. MAPHIS. I presume so; I am not familiar with conditions there.

Dr. MCVEY. For instance, in the field of clay working the University of North Dakota is unusually well equipped to give instruction in the whole development of the clay industry. The same is true

with regard to the development of lignite coal and briquetting and that kind of thing, in addition to the other instruction in subjects as this associated with engineering.

Representative FESS. Professor, what is the requirement for entrance to the department of education in the University of Virginia?

Dr. MAPHIS. The usual entrance requirement of high-school graduation.

Representative FESS. And the requirements for graduation are what? Four years?

Dr. MAPHIS. As I stated a little while ago, to get an academic degree with education as a part of it would require 4 years, but our department of education is just being organized.

Representative FESS. How is it regarded by the university? Friendly?

Dr. MAPHIS. Not as a whole. Some of the older members of the faculty—if I am not speaking too intimately—rather look upon the work of education as chasing the shadow for the substance.

Representative FESS. They are not alone in that.

Dr. MAPHIS. They themselves have not come up to their positions through a normal school or school of education, and they have become good teachers and therefore anyone else can. That is the argument. But they are looking with greater favor upon the work.

I am also director of our summer session, and we have there each year about 1,200 teachers, and we teach the vocational subjects very largely. In that way we are able to help the elementary schools where they can be introduced in a small way. But a short summer session of six weeks is no educational training in my opinion.

Senator PAGE (presiding). Do you regard it as essential for a man to have the class of education you give him there to teach agriculture in the ordinary rural community?

Dr. MAPHIS. What sort of a school in a rural community have you in mind, Senator?

Senator PAGE. Well, I have in mind a school which might be taught by a good practical farmer who goes into the school in the winter months, in my State of Vermont, and gives them some education along book lines, and then goes out in the spring and summer and fall and applies practically what he has taught in the school in the winter.

Dr. MAPHIS. I think about all that sort of teacher can get would be about one or two summer sessions. I do not believe we could get the men who take those courses of education to go into that sort of school.

Senator PAGE. Would it be digressing to ask you if you think that sort of school would be practical in the South?

Dr. MAPHIS. As I understand you, the type of school you have in mind is an ordinary rural school?

Senator PAGE. Yes, sir—largely agriculture and home economics. Do you not believe that the Smith-Lever bill—which is expected soon to pass—will give aid to this school? Because the men sent out from the State experiment station, who will be high grade men, will cooperate with the teachers in each town, and together they will work along practical lines in the town where the boy lives.

Dr. MAPHIS. If the school is large enough and the salary large enough we can get some of our men who take up work in the de-

partment of education to go into that sort of school. But with a small school and a rather small salary, about the maximum amount of training that principal would get would be a summer session or two.

Mr. LAPP. Your people become supervisors, principals, etc.?

Dr. MAPHIS. Yes. The point to which I am coming presently is that if we are not meeting the needs, and if a demand grows up for a larger number of teachers for these vocational subjects, then we must meet that demand. That demand is not with us as yet in our State.

Another instance, in order to emphasize the point I am making, because I think it is very fundamental: We know the great success with which demonstration work throughout the South especially met for the first few years. But the difficulty soon arose of not having a sufficient number of men who were trained in the principles of agriculture. They first got practical farmers, men who had empirical knowledge of the subject, very little scientific knowledge, and many of them had a narrow basis of general education.

The work began to suffer, because it only took a year or two for the people in the counties where these demonstrators worked to absorb all the knowledge they had, and they did not have the initiative to go further and lead them on. And that is the great difficulty in the demonstrators' work in the South now, to get leaders in that work, men with sufficient training to take the initiative and go ahead of the farmers themselves.

Senator PAGE. The president of the Georgia State College was before a Senate committee recently, and he said that for the purpose of carrying out the provisions of the Smith-Lever bill he thought they already had a sufficient number of men in the State agricultural colleges and experiment stations to go on with this work as demonstrators.

Dr. MAPHIS. Well, he probably knows his men better than I, but, giving a general opinion, I should differ with him.

Mr. PROSSER. Where is the agricultural and mechanical college in Virginia located?

Dr. MAPHIS. Our agricultural and mechanical college does not train that sort of leaders. They may have more in Georgia than we have. Our agricultural and mechanical college is located at Blacksburg. We have tried a number of men from there. In the first place, it has been the fault of the agricultural and mechanical college. The agricultural and mechanical college has followed the traditional lines and stressed engineering and neglected the agricultural features, so that many of the men who came from there had some little knowledge of agriculture gotten from the experiment station but had not studied it from the broader scientific standpoint, and they did not become very successful teachers of the subject.

Mr. PROSSER. Is there a department of education in this agricultural and mechanical college?

Dr. MAPHIS. No, not at all.

Mr. PROSSER. Then, your proposition is to take men who have had courses in agriculture at the agricultural and mechanical college of the State of Virginia, and have them come to the State university

either in winter or summer to take the training in order that they may go out——

Dr. MAPHIS. Yes; or, preferably, come and take our work as a basis of preparation and then go to the agricultural and mechanical college.

Mr. PROSSER. That is putting the cart before the horse, is it not?

Dr. MAPHIS. It may be; but, following out the point I made a while ago, conditions are so different in the different States. With us we have a multiplication of institutions. We have little coeducation. We have four institutions of higher education for men: Our State university, Virginia Military Institute, William and Mary College, and the Virginia Polytechnic. The two institutions at which teacher training is done are the College of William and Mary and now the University of Virginia. With us that teacher training should be done at those two institutions as far as practicable, in my opinion. If a knowledge of agriculture is necessary the student should get it, first or last, at the agricultural and mechanical college, and to some extent it can be gotten in connection with the department of education at the university.

Senator PAGE. Don't you think that this college extension work is going to coordinate with the teacher in the rural district in such a way as to give the farmer and the farmer's children a broader view of agriculture, that broader view which you say they now lack?

Dr. MAPHIS. Yes, I think so.

Senator PAGE. You think the coordination of those two forces will lift the teaching of agriculture into a higher plane?

Dr. MAPHIS. I think so.

Senator PAGE. And will it not fulfill the fair expectations of the friends of this bill?

Dr. MAPHIS. You are referring now to the Smith-Lever bill?

Senator PAGE. The Smith-Lever bill, or some bill that may be provided here, whether after the order of the Page bill I do not know, but somewhat on the same lines. The two are supposed to work together, and if we have the practical farmer-teacher in the rural school he may receive instruction from the man sent out under the Smith-Lever bill—college extension work. Will they not work together in such a way as to give this practical farmer-teacher such an advanced idea of agriculture that he can bring about the success which you say has not crowned your labors, in Virginia especially?

Dr. MAPHIS. I think the answer to that question will be involved probably in the next point I wish to make. My first point was that any system should involve a system of teacher training. The next point is that teacher training involves, first, academic scholarship as a basis.

Mr. PROSSER. You are talking now about agriculture, are you?

Dr. MAPHIS. Agriculture, or any other vocation. Of course some of the shop work that you mentioned a while ago and work of that character does not apply so well; but I believe that any person who wishes to become a director of a school, a vocational school or any other type of school, should have a broad educational basis, a general training for that work, and unless that is true I think we are going to have very much the same results that we have had in the

demonstration work. I mean by that that we find in our experience that if a man goes, for instance, to an agricultural and mechanical college where there is no departmnet for teacher training and learns something of agriculture, something of the scientific basis of agriculture, and acquires some empirical knowledge of agriculture, that teacher does not make the success he would make if he had had a broader culture as a background for his work.

In other words, I believe in the principle that the higher forms of education create better leaders. I believe that amongst high school graduates, for instance, you find more leaders in any work, in any profession, than you will find among those who do not graduate from the high school.

Mr. PROSSER. Is that not due entirely to the fact that it is a selective process?

Dr. MAPHIS. Probably so. Even if we admit that, we want the selected men.

Mr. PROSSER. It is a series of hurdles we put up to eliminate the men who have not the kind of mental qualities we think they ought to have.

Senator PAGE. I think it was Mr. Kirby of the National Manufacturers' Association, who claimed that to get the best teachers for the industrials, he would go into the shops and pick out an expert man in the shops, not with reference to his previous general education, but with reference to his ability in the particular department in which you wish him to teach.

Mr. PROSSER. We are talking about so many different things here that we are confused. Dr. Maphis is really addressing himself here, I think, to the question of the training of supervisors for this work. Personally I think there is a good deal of nonsense about the training of teachers for vocational subjects on the theory that a man would be a better teacher of shop work if he were a college graduate than otherwise. The job that a man has to do in any school is to train a boy under him to be a mechanic, and the thing he must have above everything else is the mastery of his calling, and he might know all the Sanscrit that was ever written and if he did not know the machine shop he could not give that instruction. It takes years to acquire adequate skill and knowledge in the machine shop.

So I think we ought here to make it very plain that when we are talking about teachers of shop work in industrial schools we are talking about the man whose largest asset is a thorough trade experience, on top of which he ought to have a certain knowledge of the applied mathematics which has to do with his calling.

Now, Dr. Maphis is talking here to-night about the training of men at the University of Virginia to go out and become supervisors. And he makes the point that because they stand well in the community they ought to have mental training as well. I want to make a protest against the assertion that the first essential is a broad academic experience. I think that all of that a man can get on top of his technical training is fine, but the first thing he must have is the mastery of his calling. What do you think of that, Miss Marshall?

Miss MARSHALL. I think so. I think in theory it would be perfectly splendid for him to have the all-round education. It seems to me we must all believe that. But, as a matter of fact, for many persons there is not time in life to get both. It is true of the woman

teachers certainly. The woman who becomes a skilled trade worker has not had time to go to college.

Dr. MAPHIS. I think you have missed my point entirely. My point is that in connection with the establishment of a system of trade schools, of vocational schools, you must have somebody to direct those schools. I am not speaking of the individual boy or girl in that school. I am speaking of the head of that school, and I claim that my principle is sound, that the head of that school, if he is going to become a leader, if he is going to make that school appeal to the people, must have more than a little technical knowledge of the subject he is to teach.

Miss MARSHALL. I agree with Dr. Maphis, but is not that the big problem before us?

Dr. MAPHIS. I think it is the fundamental problem. I think every one of those schools is going to fail unless you have somebody of that type. I do not mean a man who is a graduate of the University of Virginia, or of a college; but, as I said a while ago, we have to have schools of different types, and if we have a man or woman who corresponds to a high-school graduate——

Miss MARSHALL. It may be fundamental, Dr. Maphis, but now I, for instance, have charge of a school. I have 60 people under me, all specialists in their lines; but what proportion does the leader bear to the great mass? I agree with you that the leaders ought to be broadly trained persons, but while that is fundamental I do not think that is is the big question before us.

Dr. MAPHIS. Take the two subjects I have mentioned. I think that for a long time the principal vocational subjects in the South are going to be agriculture and the domestic arts. Unless the head of a school of agriculture—I do not care what grade of school it is—knows something of the principles of the sciences underlying agriculture, on which agriculture is based, unless that principal knows something of his native language, if he can not speak good English, he is going to lose influence and he is not going to make a very good agriculturist, either. He ought to speak good English, and he ought to have knowledge of some other subjects. He ought to have some knowledge of the social sciences, by all means, because I am now speaking of the leaders, the people who are going to carry this work forward.

Mr. WINSLOW. The people who are in turn going to train the teachers for the industries.

Miss MARSHALL. Skilled leaders are going to fail utterly if you do not have the other thing.

Dr. MAPHIS. That is just the point. I do not believe in disassociating those two. We must have both.

Miss MARSHALL. I could not lead in my school at all unless I could get the specialists. I might have the vision, but I could not get the work done.

Dr. MAPHIS. If you do have the vision you are really a leader, and your specialist comes along and carries out your ideals and your directions. He is the man that knows how to do it, and you are the woman that knows how to plan.

Miss MARSHALL. But the great asset I look for in them is the trade knowledge.

Dr. MAPHIS. Certainly; but you do not put them at the head of the school. You are the head of the school.

Miss MARSHALL. No; but I think the great problem is that these others are going to follow after the leaders. I wish the teachers that have the trade knowledge had something of an idea of imparting that trade knowledge, but I could not get along without that trade knowledge.

Dr. MAPHIS. Certainly not.

Mr. PROSSER. I am curious, all along here, to know the difference you make between the situation in agriculture and the situation in trades and industries. First of all, it is possible to get some of the graduates of an agricultural and mechanical college with further training from some educational department of such a college or elsewhere to become a teacher at the salary paid. He is not the best man who goes out of the agricultural and mechanical college, because he can be placed to-day in agriculture at a larger salary than he can get in the schools, but the margin of difference between the two avenues of employment is so little that you can get him to teach. Hence when we talk about a teacher in agriculture we are thinking only of a man who is a graduate of an agricultural college or its equivalent.

Now, when you turn your attention, on the other hand, to the industries, you find that the rewards for teaching are not nearly equivalent to the rewards for service in the industries. The result is, you can not get the good men to go into the schools. What you do get, in too many instances, are the people who, on the whole, have made a failure of their attempt to become trades men and who seek employment as teachers as a way out. Now, I do not believe myself that these industrial schools are going to be helped by a State university in training teachers.

Dr. MAPHIS. I admitted that a while ago.

Mr. PROSSER. I think they are going to be developed from within the schools.

Dr. MAPHIS. They are going to be developed from within the schools. But you seem to have in your mind, Dr. Prosser, a different type of school from that which I have. You have in mind a trade school in a city or a larger town where the processes are nearly all mechanical, and your argument is based on that type of school.

Mr. PROSSER. I am simply pointing out that while what you say may be true for agricultural schools it is not true at all for industrial and trade schools.

Dr. MAPHIS. I admitted that when I said that our State university would not be the best sort of place to train that sort of teacher. That sort of teacher must be trained where you have the manufactures.

Mr. PROSSER. A man who came out of the State university, for example, to serve as principal of one of these industrial State schools would be utterly lost, plunging into a big city with all the problems he has to face there, including the technical knowledge of the industry. It is unthinkable.

Dr. MAPHIS. I admit that. But, on the other hand, a man who came out of one of the schools of which you are speaking and attempted to teach agriculture in a small town would be equally lost.

The conditions are quite different, so different that you have to have a different type of training.

Mr. PROSSER. I think we are agreed on that.

Representative FESS. Where would you get the man you describe, Mr. Prosser?

Mr. PROSSER. I think, Dr. Fess, he must be an extraordinary man in the trades.

Representative FESS. Where would you find him? What was he before he came to the trade?

Mr. PROSSER. There is a wide variety. The schools thus far have been developing their own people. I think a man who graduates from an engineering department in an agricultural and mechanical college and who is willing to go into one of these schools, or to go into an industry and then come back to a school and teach related subjects, like mathematics, is the man who finds his way up out of the crowd, because he has the equipment. He has an actual experience both in industry and in the school. He is an extraordinary man.

Another source of supply would be the graduates of trade schools who go down into the trade after coming out, as subforemen, we will say, and after being in there for two years come into an industrial school. Then after a while that man comes up out of the crowd. When he gets to the top he has an all-round equipment, and he has the capacity to train teachers in service, because he has been through all the steps himself.

Representative FESS. Now, the fellow who comes up from the trade, what has he that the man in the agricultural and mechanical college would not have? Practical knowledge?

Mr. PROSSER. He has the feel of the trade because of longer years of experience in it than the fellow who came out of the agricultural and mechanical college and went down and got a bath of a year or two.

Miss MARSHALL. He has an understanding of the needs of the workers.

Mr. PROSSER. Yes; he is bathed in the atmosphere of it. It takes time to do these things.

Mr. SPRINGER. That is the point I tried to indicate a minute ago. There is a third element. There is not only his skill, his ability as a worker, but there is the humanitarian phase.

Dr. MAPHIS. I call that leadership.

Miss MARSHALL. But can you gain that just through a college training?

Dr. MAPHIS. I do not think you can; you can not do it.

Representative FESS. The student or worker that has had training such as is given in any first-class college or university would certainly be superior in the trade to the one that has not had any training of that sort. The only question is whether you can keep him in the trade with that training.

Mr. WINSLOW. The answer is, of course, you can not keep him in it. I can show you a man who came out of an institution in London and went into the needle trade, but you can not keep him there. He came here without a cent of money, did not know what to do, and for three years he was in the needle trade, but you can not keep him in the needle trade.

Representative FESS. From my standpoint, Mr. Prosser—and I think it is a very serious one—the vocational or industrial education should not simply make an artisan.

Mr. PROSSER. I think we will all agree to that. No industrial trade school is worthy of the name that does not promote general civic intelligence at the same time that it is moving toward trade efficiency.

Dr. MAPHIS. Of course, large numbers of college graduates do not go back into the trades, but if we did have a sufficiently large number of our college graduates go back into the trades for some practical experience, would not the college graduate outstrip the others?

Miss MARSHALL. I do not believe so altogether. He might have a fuller life. At least I believe firmly that the more education and culture you get the more you enjoy and realize the full value of life, but, as I say, some of the trade women I consider infinitely superior to myself. I feel small beside them. I see women in New York who are said to be getting $8,000 to $12,000 a year running departments in various establishments.

Representative FESS. What would those people be if they had college training?

Miss MARSHALL. I think some of them might be spoiled.

Representative FESS. What would spoil them?

Miss MARSHALL. They would not have lived their lives as they have. It seems to me we must recognize all kinds of talents in our social structure, and I do not feel that we need altogether the type that college training gives. It seems to me that another training may be equally high in quality sometimes, though it is different.

Mr. SPRINGER. In other words, there is a period in every person's life when they are preparing, and if they prepare along one line they will not prepare along the other.

Dr. MAPHIS. If you will permit me to say so, we must not forget in any system of training, especially one that is fostered by the National Government, that the one big object of all educational work is preparation for citizenship. We must prepare our citizens, our men and women, to live as well as to make a living, and that is involved in this training. It is perfectly true that if you will confine the efforts of any one person to any one particular narrow line he will become a little more proficient in that, and when you compare yourself with that person you may feel ashamed of your own abilities; but when you look at it from the larger standpoint, from a social and civic standpoint, and from the end of education, which we can not get rid of, the proper education for citizenship, for social life, for service, you can not ignore this feature.

Miss MARSHALL. Do not misunderstand me. I do not mean to belittle the college education.

Dr. MAPHIS. Do not understand that I am pleading for all these people to be college graduates.

Miss MARSHALL. I do not think the college has a monopoly of education, and I can not quite agree that a college graduate would always be more efficient.

Senator PAGE. We should like to hear a little more from Dr. McVey before he goes, and I should like to hear you through. So let us close this conversation now and not have any interruptions for a little time if we can avoid it.

Dr. MAPHIS. I am only going to sum up what I have said thus far. Here we have provided a system of national education. An important part of that system is people to take charge of the system, to direct it, to carry it out. Those people must be the teachers of the various types of schools. If you establish separate, independent vocational schools they will become larger institutions, and you want people with larger training. If you establish these vocations as a part of the regular high school, or part of the regular school of any type you may want a different type of teacher; but the point I make is that the trained teacher in any one of those schools—there must be different degrees of training and different types of preparation, but you need the trained teacher in any one of those schools.

That leads to the next point I wish to make. This training must be done principally in institutions already established and equipped for that purpose. I think it would be disastrous to establish more, because we have already throughout the whole country overmultiplied our educational institutions. We have too many of them everywhere, and the multiplication of institutions has led to a duplication of effort and therefore to great waste.

Mr. PROSSER. I should like to ask one question here, merely for the purpose of the record. Do you believe that a general course in pedagogy in an educational department or a normal school or university is proper preparation for people who are to give instruction in industrial trades, and home economics in industrial schools?

Dr. MAPHIS. Not if you mean just the types of courses that are now offered.

Mr. PROSSER. A general course in psychology of the conventional kind, for example. A general course in method of the conventional kind. Do you believe such courses equip people to meet the big problems they are going to have to face in these schools, or do you think the teachers ought themselves to have gone through experience in the schools for which they are fitting these teachers?

Dr. MAPHIS. I think partly both. I think that any teacher training, as I said, involves a large amount of prefessional matter, which means a large amount of child study—it depends upon the kind of school you are going to have. It certainly involves child psychology.

Mr. PROSSER. You have in mind, then, that a teacher in a State university to-day would be a highly desirable man to prepare teachers for trade or industrial education?

Dr. MAPHIS. No, sir; I do not attempt to say that, at all. We have not these schools we are talking about now, but if these particular institutions go forward to fulfill the functions of a State-supported institution when these schools are established, then we will so direct our teacher training as to meet the needs of these particular schools; and I would not for a minute hold that the traditional type of training in pedagogy would be sufficient to train teachers of domestic science or these other vocational subjects.

Representative FESS. However, there are certain pedagogical principles that ought to be understood.

Dr. MAPHIS. That would be involved in anything. If I wanted to place a young man or young woman at the head of an agricultural high school, to be the director of all the children in that school, it

would be just as important for that man to understand the principles of child psychology and the principles of school administration and other educational principles involved as any other teacher in any school.

Mr. PROSSER. But, to a very great extent, those principles would be meaningful or meaningless just in proportion as they were vitalized by reference to and constant practice in teaching in the type of school to which they were to be applied.

Dr. MAPHIS. I agree with you. All teacher training now involves practice schools in the type of schools in which you are going to teach. We have practice schools for elementary school teachers. We now have practice schools in high schools, in our colleges of education, because we are training teachers to teach in high schools. When we have these particular vocational schools we will have practice schools.

As I said, this training must be done in institutions already established, and they must frame their work to meet the needs. Take Richmond, for instance. I would, not for a moment, say that the educational department of the university could best train the teachers for the various industries in Richmond.

Then we come to the point that the autonomy of the State should be full and the fullest powers be given to provide a method suited to the conditions prevailing in the State. That has been discussed, and I shall not go further into details. We have just seen that the conditions are so different in the different States that whatever appropriation is made, in my opinion, for this work must be given to the States; and they must have a large measure of influence, certainly in the way in which that money is spent.

Dr. Weber spoke of Pennsylvania. The State college of Pennsylvania happens to be the agricultural and mechanical college there, and in that particular case—the University of Pennsylvania being located in Philadelphia—they have largely assumed the work of a State university, and they have a department of education doing work that ordinarily belongs to the State university. In our own State that work has not been done by the agricultural and mechanical college. Unless the State board of control, or our State board of education, would have power to decide where this money should be spent, and, to some extent, how, it would be very difficult for a Federal commission.

Mr. PROSSER. Would you favor leaving that to the legislature to decide?

Dr. MAPHIS. I would rather give them the money and let the State board of education decide.

Mr. PROSSER. That is what I mean. What do you think about that, Dr. McVey?

Dr. MCVEY. I should say that it ought to be left for the legislature to decide whether they will determine it themselves or let the State board of education determine it; because in a good many of the States you do not have a State board of education, or it is made up in such a way that it would not be in a position to deal with the problem satisfactorily.

Dr. MAPHIS. I have just one more point by way of suggestion. The question has been asked here several times, "In what way can the United States Bureau of Education aid in this work?" I have heard

some strictures made on the Carnegie Foundation. I am now referring to a method used by the General Education Board which is somewhat similar to that, but I think it has some good features. I am referring now to the work in secondary education in the South. The General Education Board has attached to each State university a professor of secondary education. His salary is paid over to the university, and that man is entirely under the control of the university. In most States he is attached to the department of public instruction, so that he becomes a State official.

Representative FESS. Is he furnished by the university or recommended by the General Board?

Dr. MAPHIS. Hs is furnished by the university.

Mr. SPRINGER. There is no restriction by the General Board; they do not place any restraints.

Dr. MAPHIS. There are no requirements made of him, and he works absolutely independently of the university, and usually of the State department of public instruction. Now, through the work of this man there has been the most marvelous development in secondary education in the history of education in the South, and it has been done with a small amount of money, about $300,000 a year. Those men have become missionaries of secondary education, and have gone about through the States stimulating interest in secondary education, and have suggested ways and means and methods, and they have created a strong sentiment in favor of better secondary schools.

Now, in some such manner, it seems to me, the United States Bureau of Education could very greatly aid this work. I do not know whether it would be feasible for a representative of that bureau to go into each State and attach himself to the department of public instruction, but I believe that that would be a very practicable way of helping to work that out.

Representative FESS. By the way, Professor, that met with severe criticism at this Congress here. Senator Page, the money that is given by the General Board of Education for the extension of agricultural work, etc., has not the Senate cut that out of the bill?

Senator PAGE. Yes, sir. It repudiated the Rockefeller Foundation entirely, and whereas the sum of $500,000 has been utilized heretofore, coming from the Rockefeller Foundation, they have cut that out and appropriated $250,000 from the Federal Treasury.

Dr. MAPHIS. That is not the fund I referred to; that is a fund for administration work in the South, I think. That is an entirely different proposition. The Rockefeller Foundation gave a certain amount of money to aid this demonstration work in the South, and they work through the United States Department of Agriculture, and that is what you are referring to, I think, Senator.

Representative FESS. But the principle applies just the same, does it not?

Dr. MAPHIS. To some extent. I think probably the men in seconary education were freer and had less supervision; in fact, there was none, and the only thing the General Education Board had to do was to pay the salaries.

Representative FESS. That came up, and the objection seemed to arise from giving too much authority to a board in directing the educational policy.

Dr. MAPHIS. That came up in connection with the movement, was it not, to incorporate this Rockefeller Foundation?

Representative FESS. No; this was just recently, just a week ago.

Senator PAGE. In the agricultural appropriation bill.

Dr. MAPHIS. That objection could hardly obtain if we accept the principle of Federal aid.

Representative FESS. I am not sensitive on these questions at all, but the Members of the House said that there was an extraneous body supplying money and exercising too much authority on educational policies.

ADDITIONAL STATEMENT OF MR. FRANK L. L. McVEY.

Senator PAGE. Now, Dr. McVey, I want you to say something that is constructive rather than destructive of this work.

Mr. McVEY. Well, I have a letter here from President Denny, of the University of Alabama, which I should like to have made a part of the record. It covers some of the ground I have been discussing. I shall not read it, but it can be made a part of the record.

Senator PAGE. Unless objection is made, it will be made a part of the record.

The letter refered to is as follows:

"Following the 1912 meeting of the National Association of State Universities, a committee of which you were made chairman published a brief paper setting forth certain objections to the Page bill then pending in Congress. As a member of this committee I request that this paper shall be submitted for consideration. I am likewise suggesting that the chapter on 'Vocational schools' (pp. 125–133), printed as a part of Bulletin No. 7, issued in 1914 by the Carnegie Foundation for the Advancement of Teaching, shall be brought to the attention of the commission.

"Whether or not the Federal Government ought to undertake to appropriate money out of the National Treasury to aid schools of one kind, while it declines to aid schools of another kind, I shall not undertake to discuss at this time. It is, however, a fact that the policy of the Federal Government in the legislation enacted during the last half century has in large measure failed to take into account the existing conditions in nearly one-half of the States. The result is that this legislation has accentuated the chaos that has arisen in the field of higher education in these States. Apparently no serious effort has been made to define clearly the exact field of the agricultural college that is not a part of the State university. These colleges have in large measure been permitted to neglect their own work and to determine their own policy. It is true that the Federal Government by its failure to see to it that the funds appropriated to the separate agricultural colleges are being used for the precise ends for which they are designed has been engaged in duplicating the work of the separate State university and thereby assisting in breaking down the work undertaken by the States. It is, in my judgment, the duty of the Federal Government, acting through its own bureau of education, to formulate a definite, clear-cut definition of the exact field of the agricultural college to which it is annually appropriating large sums of money. Until this is done the work of higher educa-

tion in various States is being hindered rather than helped by Federal grants.

"It is to be hoped that the Commission will first of all seek a clear definition of vocational training. There is great confusion in the public mind on that point. There is also marked difference of opinion as to the exact relation or correlation of such training to the public-school system. There is need of careful articulation. It seems clear that the form of industrial education which any State might wisely adopt will depend upon the particular trades which that State needs to foster. Since this is true, it is essential that a certain degree of elasticity shall be allowed the various States in dealing with the whole problem. The need of North Dakota is essentially different from the need of Massachusetts. The need of the sparsely settled rural community is essentially different from the need of the populous industrial city. The autonomy and the authority of the State, under proper restrictions, should be recognized and respected. The Commission will not lose sight of the fact that it is dealing with a problem involving the destiny and the integrity of the school system of the Nation. Never before in the educational history of the country has any commission been charged with a more vital, far-reaching task.

"The whole question should be dealt with in a spirit of conservatism. The utmost care should be exercised. American conditions are not identical with conditions in Germany. We must undertake to determine with a fair degree of accuracy how vocational schools may be adapted to our own conditions. This will require time and careful study. Undue haste in enacting legislation concerning this matter would be suicidal. It would be a mistake to crudely imitate the German trade school. Our entire social structure is essentially unlike that which obtains in Germany. Whatever is done in this matter, therefore, should be done gradually. The whole process must be slow. As a matter of fact, the best American authorities are fairly well agreed that there must be a radical reform of the curriculum in the elementary and secondary school and a reorganization of the existing scheme of educational administration in the various States as preliminary to the successful introduction of vocational courses into our American system of training.

"It is seriously doubted whether separate vocational schools should be established except in large industrial communities. Whatever is attempted in the rural communities should be planned in connection with existing schools. Absolute uniformity should not be required. There are few communities in the South that are at this time prepared to undertake to maintain separate schools devoted exclusively to vocational training. Each State should be left free to determine through its own agencies whether such schools shall be established independently or in conjunction with existing schools. Each State should be left free to determine for itself its real needs, and the kind of schools that will meet these needs. No State is in position to develop, in its various communities, all kinds of high schools in response to demands made.

"Perhaps it is well to call attention to the fact that few, if any, of the so-called Southern States are at this time financially able to provide, by appropriations from their treasuries, the subsidies that will

be required to meet those provided by the Federal Government. The passage of the Smith-Lever bill by the present Congress will create the need of largely increased State appropriations in order to meet the demands of that bill. It is far from certain that all, or indeed any considerable proportion, of the Southern States will be in position, for the time being, to take advantage of the subsidies provided in that measure. It is now proposed to carry educational legislation still further, without giving to the States time for any kind of adjustment to the provisions of the Smith-Lever bill. No one need be surprised if a number of the States shall declare themselves unable to comply at this time with the terms of any measure that may be provided for a system of vocational schools. In that event, it is clear that we shall confront an embarrassing situation. No one would desire to see the stronger States drawing from the Federal treasury funds belonging to the entire Nation, while the less wealthy States, whose need is greater, are unable to meet the conditions imposed.

"It is greatly to be desired that, in the training of teachers for vocational schools, whether established by Congress or by the States, the already established schools of education of the separate State universities shall be recognized as the proper agencies to be employed. Teacher training involves something more than knowledge gained in an empirical way. Only those institutions which are specifically designed to do this kind of work can do it in the right way. The provision by the State universities of the special equipment necessary to prepare teachers for vocational schools would be far less costly than the creation of a separate school of education in connection with the agricultural colleges. Surely, there can be no sound reason for this additional duplication. It would be a serious blow to the efforts that have been made in the various States to build up strong schools of education, if the Federal Government should now step in and take such action as will inevitably handicap and weaken them. It is earnestly hoped that these schools of education which have hitherto been regarded as adequate to serve the various States will not now be seriously crippled. Surely the Federal Government will desire to strengthen them in their great mission. There can be no sound reason why it should not use them as the most effective instrument at its command through which to equip the men and women who are to set the pace in vocational training. The effective service rendered by them in the past ought to be regarded as a safe guaranty that they will meet the demands of the future in any new reponsibility that is entrusted to them."

Dr. McVey. Mr. Chairman, my feeling grows stronger, as I sit here and listen to this discussion, that the Federal Government is getting into a pretty difficult task, and it is going to be very hard indeed to work out a line of cleavage that is going to meet all the problems for 50 institutions; and I do not see that my original point of view should be changed, namely, that it is just as well not to make any distribution among the States for vocational education, but rather to confine the efforts of the Federal Government to a process of supervising and developing a propaganda of vocational education.

Mr. Prosser. Dr. McVey, does that statement you have made rather presume there is no possible way of setting up an administrative relationship between the National Government and the States which

would leave the States practically just as free to work out their problems with the grant as they would be without it?

Dr. McVEY. We threshed that matter over in part at the beginning here.

Mr. PROSSER. Yes; and I am simply raising the issue again for the sake of the record; that is all.

Mr. LAPP. Does not that presume also that there is not an overwhelming demand for vocational education?

Dr. McVEY. No, sir.

Mr. LAPP. Does not the fact that the States have been at this problem for 50 years and have not done anything practical on vocational education as yet indicate that they will not do anything?

Dr. McVEY. No, sir; it does not, in my opinion.

Mr. LAPP. Do you see any evidence of its accomplishments throughout the country?

Dr. McVEY. I do.

Mr. LAPP. Among the States?

Dr. McVEY. I do.

Mr. LAPP. For real effective vocational education?

Dr. McVEY. There must always be a background for anything that takes place in the history of education or industry or anything else.

Miss MARSHALL. Along what special lines, Dr. McVey, do you see it coming?

Dr. McVEY. In agriculture.

Miss MARSHALL. But that has been stimulated by national grants.

Dr. McVEY. In part, that is true; but the whole discussion of vocational education is barely 5 years old; is not that true?

Mr. WINSLOW. Just a little bit older.

Dr. McVEY. I do not mean that they have not been talking about it and people have not been writing about it, but as a practical problem it is barely 5 years old.

Miss MARSHALL. We had a commission in Massachusetts that reported in 1906.

Mr. LAPP. The same idea goes back 40 years, but it got sidetracked. We did not have any guiding principles, such as national grants, and the work became academic.

Dr. McVEY. I feel that there are many evidences of the development toward vocational education and a likelihood to create an increasing discussion of it and increasing activity on the part of the States. In the first place, here you had this demonstration of manual training which did not bring us, by any manner of means, the things we hoped for out of it.

Mr. WINSLOW. For 25 years it sought to train recruits for the trade and did not succeed.

Dr. McVEY. Yes; and we now have the question of vocational training. Vocational training in New York, as Mr. Prosser has shown, is one thing, and in Virginia and Alabama it is distinctly another thing, and what he is trying to get would not be satisfactory to us in other States. The State of New York is distinctly able to take care of its own problem if it gets down to business. The place for this agitation for New York is at Albany, not here.

Senator PAGE. Do you think this work will go on in the States of the South, the Southwest, and West unless there is some stimulation,

unless we go ahead and blaze the trail in some way and mark out the work.

Dr. McVey. Take the first point that I made, namely, endowing one of the bureaus of the Government. Let it set up a propaganda and create a background, so that we know what we mean when we are talking about vocational education, so that we will have some understanding of the fundamental principles underlying it. That will be the best work the Federal Government can do; but if it goes ahead and makes appropriations—a million dollars—why, that is nothing at all when you get into this, if you are going to put it on a constructive basis. But if you are going to do something in the way of the development of a propaganda, a million dollars is plenty to do a very great and splendid work.

Take, for instance, Germany, which is a vocational education country. One of the first problems there is the straightening out of the curriculum. We have here 12 years and then 4 more, making 16 with the college. We have to extend that under a system of vocational education. We have to push the eight grades down into six and get some adjustment of the high school before we can begin vocational education somewhere in the neighborhood of the sixteenth or seventeenth year.

Another thing is that under our present school system we are not ready for any kind of vocational system. We must first absolutely lay the foundation for this work, and I feel very strongly that the big function of the Federal Government is to do the educational work without throwing a lot of money into State legislatures to distribute in a haphazard sort of way.

Mr. Winslow. You think the legislatures ought to do that? Supply the money?

Dr. McVey. In the final analysis.

Mr. Winslow. I mean the legislatures of the different States should supply the money?

Dr. McVey. In the final analysis; yes.

Mr. Winslow. I want to tell you something, Doctor. You say that this discussion ought to take place at Albany. I want to repeat something that Dr. Draper said in 1907, when the superintendent of schools of the State of New York asked for a paltry $10,000 for the purpose of studying and analyzing conditions in the State of New York to find out what he should teach in those schools. Dr. Draper, addressing the chairman of the appropriations committee, said, "Mr. Chairman, the educational departments are fairly abreast of the times, and we do not need $10,000 to study what we shall teach."

Mr. McVey. That I understand, of course.

Mr. Winslow. I just wanted to relate that incident to show you that we are not making the progress that we should have made had we gotten money from Albany to do the work in New York City.

Representative Fess. Doctor, to be specific, what would you recommend this commission should do?

Dr. McVey. I should say that this commission in developing a bill should provide a sum of money for the study, first, of the conditions existing in this country and the need for vocational education, the different kinds, and the way in which it can be developed, and the provisions for providing teachers for that education work, the question of the composite as against the specific or specialist school, and

a lot of problems of that character, and give us the benefit of the work.

Representative FESS. How would that money be applied by the Government?

Dr. McVEY. I should apply it just as you would through any commission or through any department.

Representative FESS. Would you create a single commission?

Dr. McVEY. I would prefer to see it done through one of the departments, preferably through the Bureau of Education, although I have not talked with Dr. Claxton about this matter and have no right to make any such statement concerning it.

Representative FESS. Now, may I ask, are you speaking for the association you represent or for yourself individually?

Dr. McVEY. No, I am not; that is my own personal opinion.

Senator PAGE. Doctor, you know, do you not, that questionnaires have been sent out and that there has been a quite general discussion of that matter for the last four years? Also that probably three-fourths or four-fifths of all the States have taken a decided stand in favor of Federal aid?

Dr. McVEY. I have no doubt of it. They will also take a decided stand for Federal aid on any kind of question.

Representative FESS. This is the thing I have in mind. What you have said is in the record. You appear as a representative of an association of educators?

Dr. McVEY. Yes.

Representative FESS. And I wondered whether that statement would stand as the statement of this association or not. It would probably be used on the floor——

Dr. McVEY. I shoul be very glad to verify that. In the first place, I should say, Mr. Chairman, that I should like to have the privilege of submitting a short brief to this Commission, putting down some of these points of view, with such argument as I can bring to bear, supported by a sufficient number of men to give it some standing. [See statement on p. 174 (a).]

Senator PAGE. What is your position, again, Doctor? You say you do not represent them?

Dr. McVEY. I am here as chairman of a committee, of which Dr. Maphis is one and Dr. Denny is another, representing 20 separate State universities—not, as you have it, the nontechnical universities.

Senator PAGE. That is not my language, Doctor.

Dr. McVEY. I understand; it is merely a memorandum.

Now, the reason why perhaps these State universities have this feeling is because they see the Federal Government coming in with certain grants of land and money, without proper restrictions and clear understanding and definition concerning the points involved, for the development of a school that has come in contact, in conflict, in competition with them. In the case of Indiana there is division.

Mr. SPRINGER. I suppose you know that in Michigan we are in the supreme court.

Dr. McVEY. I did not know that. That is the situation; these men are not pleading for the State universities as such. I am not here pleading for the University of North Dakota to have a share in this whole thing; I am pleading with these gentlemen for a clear, scholarly,

statesmanlike attitude toward the problem of education. And we ask that you hesitate before the Federal Government takes a new step that is going to mean not simply the appropriations that might be made in this bill just now, but appropriations year after year, piled up until they become immense. And if that is to be the case, we need to take into consideration all the points involved and see if we can not reach it without dealing with some specific phase of the problem, but look at it from all sides.

Senator PAGE. I simply say, Doctor, that those of us here who are most intensely interested in this matter are looking out for the boys down below.

Dr. McVEY. I understand.

Senator PAGE. And instead of having you tell us what we can not do, I should like to have you take another view and say what you think we can do to help these boys. You say we can not do it. We are seeking for somebody who can tell us how we can do it. We feel that in this great rich country of ours we are not giving the sons of the men who work in the mills, the mines, and the shops the opportunity they ought to have, and we want big men like you to tell us what we can do; not what we can not do.

Dr. McVEY. I think that is a fair point of view, Senator. My view here is that this problem can be solved, but that it is not going to be especially well solved by the interference of the Federal Government. If we can have the stimulus in the local communities and have pointed out to them what the meaning of the problem is and how they can deal with it we can begin to get somewhere.

Take Massachusetts; there are various problems there that are involved. The city of Lowell and the rest of them have simply got to get together—the manufacturers, the business men, and the others—and to work out the problem and to bring in people who know something about it, and deal with it. I do not say whether the Federal Government comes in there or not, but in the final analysis it will have to be worked out locally.

Miss MARSHALL. Will we ever learn by studying? Will we not have to experiment, just as at Gary and other places?

Dr. McVEY. Certainly; but we do not know the experiment. Before beginning the experiment we have to know what the problems are.

Miss MARSHALL. Do we never consider undertaking certain experiments which are not yet started?

Dr. McVEY. I think here and there we do.

Mr. WINSLOW. Take that particular city you mentioned, Lowell, or Lawrence, or some of the other places. Perhaps some of us happen to know that there have been times when we thought we could try experiments in those particular cities, but the particular interests involved—the manufacturers and the other interests—would not allow us to do that sort of thing.

Dr. McVEY. If that is true, are they going to allow you to do anything more under a Federal act unless you call upon the Federal Government to carry the whole burden?

Miss MARSHALL. Dr. McVey, some of us know, too, that in those communities we have had the statutes on our statute books for 30 years or more to do those very things, and we never got them done until they were stimulated by State grants. Is there not some analogy between that and what you may do by Federal grants?

Dr. McVey. I have not any doubt that Federal grants would begin to do something.

Senator Page. Do you recall that under the Page bill the provisions are that the Federal Government shall in no case appropriate more than one-third; that is, there shall be twice as much appropriated by the State and local authorities as is paid by the Federal Government?

Dr. McVey. Yes, sir.

Senaor Page. And do you know, Doctor, speaking of Massachusetts, that there are no people anywhere that are as urgent for this bill as the chambers of commerce and boards of trade of Massachusetts?

Dr. McVey. I have not any doubt of it, but if they were just as earnest about going right after it themselves without relying on the Federal Government they would have been there a long time before this.

Now, I find that I must go. I regret it very much, because I am enjoying this if you are not.

Senator Page. Doctor, we feel greatly indebted to you for coming. As I said before, I wish you would be a little more constructive.

Dr. McVey. I may say that my whole record has been on the constructive side, with a willingness to meet the other fellow halfway. I do feel that you are dealing with one of the great historical epochs in education right now. The question of opening the Federal appropriations for the support of local education along any line is now here at hand, but just how far you are going to go and where it is going to end I do not know.

Whereupon, at 11.15 o'clock p. m., the Commission adjourned to meet to-morrow, Tuesday, April 21, 1914, at 10 o'clock a. m.

THURSDAY, APRIL 23, 1914.

Senate Office Building, *Washington, D. C.*

Pursuant to adjournment, the commission met at 10 o'clock a. m.

Present: Senator Page, Representative Hughes, Representative Fess, Mr. Lapp, Miss Marshall, Miss Nestor, Mr. Prosser, and Mr. Winslow.

STATEMENT OF MRS. HORACE M. TOWNER.

Senator Page (presiding). Mrs. Towner, will you please state for the record your full name, address, and the official position, if any, which you occupy?

Mrs. Towner. Mrs. Horace M. Towner, of Iowa. I am chairman of the legislative department of the General Federation of Women's Clubs.

Senator Page. Mrs. Towner, will you proceed in your own way to present to the commission whatever you desire to say in connection with the matters we have under investigation?

Mrs. Towner. I really have very little to offer in the way of any definite suggestions, although I think everyone who has been interested in the matter from the standpoint of the General Federation has felt that there is great need for a practical plan by which Federal aid may be extended.

I think I might take up these questions in their order, because that will be along the line of the things I would like to say, although I have not seen these formal questions until this morning.

In the first place, I think we are all agreed that there is need for vocational education, and it would be entirely unnecessary before this commission to say anything in that connection, because that is the reason we are all of us so interested in obtaining Federal legislation which would bring it about. In this work for Federal legislation, the General Federation is interested in the proposed legislation which would bring about the widest possible extension of this assistance, including domestic science and the study of it, which would affect the girls as well as the boys, included in Senator Page's bill.

With regard to the need for national grants, I would say they are needed to stimulate the studies. They are not needed so much to help bear a part of the burden; I would not say so much to bear a part of the burden as to stimulate local activities. Many States would be glad to inaugurate vocational training departments and vocational training schools if they had the encouragement, if they had a definite method, a definite practical method suggested. The only suggestion that I expect to make is that if trained people could be furnished by the Government, who would be ready to suggest the proper methods for installing courses in connection with State schools and in connection with public schools, or possibly to vocational schools independently established—if those trained people were in readiness to assist in this way, there would be great demand for them.

I personally know of three instances last winter. One was a public school wishing to put in a department for vocational training. They wished to put in domestic science, in addition to the manual training which the boys had, and any other department which seemed wise. They wrote to me, as the wife of a Congressman, to suggest methods by which this could be done and to find out model courses, to ascertain for them what courses were used, and how the work was arranged. To my surprise I found there were no model courses; that a school here and there had made very good reports to the Bureau of Education, but their courses were adapted only to their local conditions. It was impossible to obtain an authoritative, well-defined curriculum for a course of vocational training from the Government.

Mr. PROSSER. May I interrupt you a moment? Will it not always be true to some extent that you can not send out from Washington a standard course which can be adopted by any local school? Will not it always be necessary for adaptations to be made of courses, however excellent, to meet local needs?

Mrs. TOWNER. I should say, Mr. Prosser, that that was understood; but there should be trained people who can be called upon to make that adaptation. I do not know where these trained people would be found, but it would seem to be almost the first step, possibly, to train experts. I know of no trained people to be had myself, but if the Government could assist the States and local communities by providing trained people I think it would do more than any other one thing. That has been my observation.

Mr. PROSSER. I am very much interested in what you have said, and I agree with it all. I wonder what you would think about this additional statement? In addition to having experts in bureaus at Washington, more or less closely connected with the administration of grants to States, there should be built up in each one of the States a body of experts, specially qualified to deal with the subject and having an intimate knowledge of the local conditions, such as the

national experts could not have, and the working out of the problem means a group of national experts acting in close cooperation with a group of State experts, in order that both the national and the State point of view may be given consideration.

The reason I asked that question is this: I do not want to get you off from your line of thought, but you represent in a sense the State of Iowa, and you know the conditions there better than any of us. Iowa is a great agricultural State. It is a State of rural communities. Would it be helpful if the National Government were to make grants to the States to be spent for the expert supervision of rural schools in all matters pertaining to practical education? Suppose the National Government should give a certain amount of money to the State of Iowa and say to the State board of control, in whose hands that money was intrusted, "This special fund is to be expended for the employing of expert supervisors for agriculture and home economics." The State of Iowa might provide a county supervisor of agricultural work, both in elementary and high schools, and separate agricultural high schools. It might also provide a supervisor of home economics work for the same county. These supervisors could be intrusted with the task of helping teachers, making courses of study, supervising instruction, making suggestions as to how it could be improved, giving expert advice with regard to the purchase of equipment and the arrangement of equipment in the school. They might also come, after they had gained some little experience, to the point where they would render a large service in training teachers already employed for better work in agriculture and home economics.

That is a long statement. I put it to you, wondering what you think, from your knowledge of Iowa, as to the value of that sort of help from the National Government. Suppose each one of those supervisors cost $1,500 and the National Government paid one-third of the salary.

Mrs. TOWNER. That question involves so many things that I would hardly be prepared to say I would consider that the best way to use Federal aid. I believe that our local communities are quite able to pay for that sort of supervision..

Mr. PROSSER. They do not do it now, though, do they?

Mrs. TOWNER. Because they do not know what that supervision should be. They do not know what are the wisest, most practical plans for that vocational training. If they could have authoritative direction with regard to what should be done, it would be quite possible. I think there may be some States, perhaps, where the actual financial aid in doing it might be of value, but there are very few of the Western States unable to pay for that.

Mr. PROSSER. I am a western man, coming from Indiana, and speaking for that State—and I think Mr. Lapp will bear this out—it is quite clear that many of the rural communities are not at the present time able to find a tax budget sufficient to equip their schools, to give the training itself, let alone bearing the cost of the supervision such as I have described.

Mrs. TOWNER. There are very many schools in which it is neither wise nor necessary to include a vocational training course. Many of the rural schools are doing work of this sort in connection with their other work, and do it very well; but the schools in which vocational

training is coming to be a very definite need are schools that are large enough to carry such a course, but they do not know how to carry it. I have observed the matter in a number of States, Eastern as well as Western, and I should say that while it would not be very valuable in some States possibly to give this actual financial assistance in the actual supervision, yet the greatest need is in providing trained people.

Mr. PROSSER. Would not that provide the trained people?

Mrs. TOWNER. I do not think so. I do not know how you are going to train them there in the local communities.

Mr. PROSSER. I would not train them in local communities. My idea would be that the State board of control would employ the very best people it could get. For instance, it would take out of the State agricultural college the most promising young men and send them out to supervise this agricultural work in the rural schools, all the way up from kitchen gardening work in the elementary schools to the more thoroughgoing courses in the high schools. It would seem clear that if the national grants should be given to agriculture, for example, they would have to be given in either one of two ways—for the benefit of the schools themselves or for the benefit of the supervision of the schools themselves—and I was wondering in which way money spent by the National Government at the present time would be productive of the best results, the best and most immediate results.

Senator PAGE. As I catch the spirit of Mrs. Towner's remarks, one thing she seems to regard as especially necessary is that we go ahead and blaze the trail. I have always felt in connection with this work that the States needed a stimulus. They will not take up the work unless some inducement is held out. That is a matter that is especially illustrated by the condition of our Vermont people with reference to their roads. The State provides that in the construction of State highways they will give $1,000 to any town that will put up another $1,000. There are towns and towns and towns, I can not tell how many, but perhaps more than half of them, that would not move in this matter but for the fact that they see the neighboring towns taking this fund from the State treasury. They know they have to contribute toward the fund from which those towns draw, and they say to themselves, "Here, if we have to pay part of the tax to produce this fund, we will avail ourselves of the fund, and will have good roads by putting up another $1,000 with the $1,000 we get from the State."

The Page bill, you will remember, Mrs. Towner, provides that while the Federal Government will furnish $1,000, the local or State government must provide $2,000 to go with it. My belief is that when a town looks upon this fund it will say, "We have to pay part of the expenses of raising the Federal fund, and we are very foolish if we do not avail ourselves of it by putting with the $1,000 we get from the Federal Government another $2,000 of our own." That is not only a stimulus; it not only blazes the trail, but it will bring about action of some kind, and that action we think will be for the best.

In speaking of the county unit which you have in your State of Iowa, Mrs. Towner, it seems to me that the Smith-Lever bill is going to take care of that part of it, because under that bill the Federal Government sends out from experiment stations not only men who will carry information to the adult farmer on the farm but also a measure of home economics. The State experiment station will

furnish a man to the county who can cooperate with the town teacher or the town superintendent which you have in your town, and the two together will manage in some way to work out good results, if they are only stimulated by the Federal grant to take hold of that work.

Mrs. TOWNER. I think you are quite right, Senator Page. It seems to me the special value of any assistance of that sort is the stimulus it gives from the outside.

Mr. PROSSER. I think, Senator Page, we are all agreed with both you and Mrs. Towner as to the desirability of stimulating this work in the rural communities. I do not want to prolong this discussion, but I want to get squarely into the record the matter that I raised. The debatable issue is not as to the stimulus to be given, but as to the form which that stimulus should take. The situation in any rural community in this country—and it becomes more and more acute as you go westward, where you will find counties almost as large as a New England State—is this: They have a county superintendent of schools as the chief educational officer. All experience goes to show that he does not know vocational education. He does not know agricultural education for the purpose of teaching it. He at least does not pretend to be an expert on the subject, either from the technical side or from the educational side. He certainly does not know home economics from either side. Give this money directly to the schools within the State, disbursed by a State board of control to approved schools, and you throw that training which you establish into those schools under the supervision of the county superintendent of schools, who knows at the best but little about it. These little schoolhouses are far remote from the county seat. The average county superintendent makes a remarkable record if he gets into each of those schools once a year long enough to take a look around, because he is always overburdened with a lot of official duties, among others the issuing of licenses, the examination of teachers, and so on.

Senator PAGE. I am sorry to be compelled to leave at this time. But I must go to a meeting of the Interoceanic Canals Committee, and I will ask Miss Nestor to take the chair.

(Senator Page here retired from the hearing room, Miss Nestor taking the chair.)

Miss NESTOR (presiding). You may proceed, Mrs. Towner.

Mrs. TOWNER. The reason we have this vocational education commission is that you shall work out a practical plan for the rest of us who have been very much interested in something of this sort. I want to say, though, in response to your suggestion, Mr. Prosser, with regard to using the county unit, would not that actually look——

Mr. PROSSER (interrupting). It is not the county unit in which I am interested; it is a question of supervision. I simply took the county unit because it happened to be the unit used in Iowa. In New England it would be the town—a town representing in a general way the same thing as the western township.

Mrs. TOWNER. Before that, would it not be necessary to consider how aid of this sort could be given to our State and to our high schools? Very few of our State schools have well-equipped courses in vocational training. They are experimenting. Every bit of

vocational training of which we have knowledge is experimental in any State or in any place.

Mr. PROSSER. If that be the case, is it wise to put a large amount of money into more or less incomplete courses in the schools? Will it not be under those conditions the better part of wisdom to provide adequately for intelligent supervision, so as the work grows up it shall grow up under helpful direction?

Mrs. TOWNER. That is my suggestion, that the first step be for trained people to make suggestions. If I were going to make a suggestion it would be to have trained people, not to give supervision of any one school, but trained people to whom application could be made as to how a course should be arranged, how it should be adapted, how it should be adjusted to the other parts of the curriculum in the school, if it is put in a regular school.

Miss MARSHALL. Do you think that work could be done by the Bureau of Education here in Washington?

Mrs. TOWNER. If there should be a separate department, devoted entirely to vocational education, it would seem the only logical place for it; but I think, with the machinery which is now in existence, it would be very difficult to handle. I think it would be very possible to put in a special department of vocational education, and it would be to this department to which the country would apply for trained people—for advice in vocational training.

Miss MARSHALL. Do you mean these trained people would go to the localities, or would advise by correspondence?

Mrs. TOWNER. It would depend entirely upon the necessities of the case. It would be a very splendid thing if they could be ready to go. In Iowa we send to our State agricultural department for trained people for all sorts of things. Any community can call upon the State college at Ames for expert advice, and if it is necessary the State sends an expert to that particular locality to give suggestions and advice.

Miss MARSHALL. Your suggestion is, then, a scheme for Federal agents to go out?

Mrs. TOWNER. I have not developed it that far.

Miss MARSHALL. Something in the nature of a representative to go out and study conditions in the local community and advise that locality upon what is necessary or desirable for it

Mrs. TOWNER. If they should ask for it. I would not force it upon any locality. Here is the point where the club women can do very great good. They stimulate interest in the community in training of that sort, and when they know the right sort of advice and the right sort of help can be obtained, the club women are very apt to take it up.

Miss MARSHALL. I would like to ask another question. Aside from teaching domestic science and home economics, which we all feel very strongly ought to be done as a part of general education does the General Federation stand for, or is it interested in training the girl who has to earn a living, a special vocation?

Mrs. TOWNER. I would say the General Federation is interested in every thing of that sort. Of course, a very important phase of the work of a commission of this sort would be to consider that side of the question. There again you come back to your trained people. These

schools must be established and maintained by the most expert people possible.

Mr. HUGHES. Does the National Government furnish these experts, or is it the college?

Mrs. TOWNER. Do you mean in Iowa?

Mr. HUGHES. Yes.

Mrs. TOWNER. No; they are furnished by the State college.

Mr. HUGHES. The State college of agriculture?

Mrs. TOWNER. Yes. They are very much in demand in different parts of the State. That comes under the supervision of the department of extension.

Mr. HUGHES. That is the same operation we have in Georgia.

Mrs. TOWNER. I believe so. Many States are now operating in that way. If we could go to the Federal Nation for this aid in vocational training, which we can not get from our own States because we have not the experts and many of them do not understand the necessity for them, that would perhaps be the best way for the Government to help the States.

Mr. PROSSER. Madam Chairman, what I suggested was simply to supplement the suggestion which Mrs. Towner has made. While I have my very serious doubts as to how far the expert aid from Washington can be made to reach every possible part of the country, so as to fit the needs of individual schools, counties, or townships, yet I do recognize the large value of the expert information from the bureaus at Washington. But I had in mind in addition to that, a building up within the State or the stimulating of the State to create its own experts, having knowledge of local conditions. I am quite satisfied there has never been anybody connected with the Bureau of Education in Washington who knew how to handle the local situation in Massachusetts, and if he did know how to do that he would not know how to handle the local situation in Iowa.

If an expert from a department could go to a Massachusetts town or an Iowa town and there come in contact with an intelligent supervisor, and those two could confer together the best results would be accomplished. The national expert could give this local expert the benefit of his nation-wide contact with this problem and the local expert could supply his knowledge of the local conditions to be met. Out of a hearty cooperation between the two there would not only come a meeting of minds on what was best to be done, but when the Government expert had departed the local man would still be there, not only to inaugurate a plan but to supervise it constantly. It is just as difficult to get national experts to-day, in fact more so, than local experts. Hence the question is raised as to whether or not it might not be that the best money spent for agricultural education or home-economics education in rural schools at the present time could be spent through grants to the States to be used for supervisors of agriculture and domestic science, agriculture and home economics, all of which are in their infancy. In this way only could every part of a State do intelligent work, and thus avoid the tremendous loss of public money.

There are only two ways to give some of the States agricultural education. One is to give directly to the schools themselves and take your chances through long years of slow development with the

certainty that some of the money will be misspent; the other is to give the money for intelligent supervision from the start and to call on the agricultural and military colleges and other institutions of every kind able to furnish well-prepared people at salaries sufficient to attract them to the work who will go and live in rural districts and supervise their schools. Here is a school, for instance, a little red schoolhouse on the hill, that wants to give a course in cooking. There ought to be a competent woman in that county to travel to that district. The county superintendent of schools can not do it. It is a well-known fact that no county superintendent of schools gets into each one of his schoolhouses once a year. The teachers in those schoolhouses have to be trained to teach special subjects. The one who goes there as supervisor ought to be the one competent to train them—for the way we train teachers, after all, most effectively is in service. We can give them some general ideas before they enter the profession, but they have to be trained in service.

I simply want to come back, for the purpose of the record, to say that what I have to suggest is only supplementing the excellent suggestion Mrs. Towner has made.

Mrs. TOWNER. Of course, with regard to that suggestion, many States, through their State colleges, already have that plan. Iowa has a woman who is at the head of the household-economics department of the State college and goes to every county whenever she is sent out.

Mr. PROSSER. How many counties have you?

Mrs. TOWNER. Ninety-nine.

Mr. PROSSER. So the State can not do very close supervision, can it?

Mrs. TOWNER. The State does very well; still it would be a very good thing to have others. It would be stimulating of course to have anything that came as a suggestion from the Federal Government.

Mr. HUGHES. She goes to the county seat and talks and delivers lectures there through the congregation of county schools?

Mrs. TOWNER. In Iowa this expert goes to institutes and gives short courses in domestic science. To any place she goes she gives a week's course. Necessarily they are all short courses, but an extension of the plan would be a very good thing; but it would not necessarily come from the Federal Government.

Mr. HUGHES. That is, through your State government?

Mrs. TOWNER. That is in Iowa; yes.

Mr. HUGHES. We have that in Georgia in the same way.

Mr. LAPP. Her work is confined largely to prevocational work in domestic science; that is, a course in the grades and in the schools?

Mrs. TOWNER. No; her courses have been largely in the institutes.

Miss MARSHALL. Then the teachers come in touch with the graded schools rather than with the high schools?

Mrs. TOWNER. Of course this one director of household economics does.

Miss MARSHALL. But the teachers could attend the institutes and get the courses where they do apply that?

Mrs. TOWNER. In their graded schools in connection with teaching of agriculture.

Mr. LAPP. Has the work developed there much beyond teaching the girls who are under 14 in the grades?

Mrs. TOWNER. No; I should say not very much.

Mr. LAPP. To the extent perhaps of two hours or three hours a week for those?

Mrs. TOWNER. Not more than that. It is in a very elemental stage.

Mr. LAPP. Distinctly a prevocational study?

Mrs. TOWNER. Yes.

Miss NESTOR. To what extent do you think home economics ought to be a part of general education or vocational education, and which do you think it ought to be, permitted or obliged?

Mrs. TOWNER. That is such a very large question.

Miss NESTOR. I know, but it is a question that we are facing.

Mrs. TOWNER. I should say at the present time, with present-day demands, it is necessary to have at least a small part of the time in every curriculum devoted to some phase of vocational training, but that is a dangerous thing to say, because the people who wish their children to devote their time entirely to vocational training prefer they should not take it with the ordinary school curriculum.

Miss NESTOR. Might we say this: Do you not think the home economics ought to be a part of general education?

Mrs. TOWNER. Yes; I do.

Mr. LAPP. Would you make that compulsory for every one of the girls to take it somewhere in the grades?

Mrs. TOWNER. No, not any more than I would make some other study compulsory.

Mr. LAPP. Is there any other subject that holds the importance that home economics does?

Mr. WINSLOW. Is it not true you can not make any studies compulsory?

Mr. LAPP. No; I do not agree with that.

Mr. WINSLOW. Does the law provide compulsory education so far as the special courses are concerned? It does not, and there is no question about that. If I do not want my child to take a certain special study, I do not need to. That has been demonstrated over and over again. You can say you will give compulsory education in home economics and the trade industries, but you can not do it.

Mr. LAPP. That is not exactly correct. So far as our State is concerned, we compel certain things to be taken at some time or other in the course. Everybody must take them. It has developed to a point where we shall within a very short time require that all persons, at least until they are 16, must have taken a certain minimum of domestic science, and probably an enlargement of that to include manual training.

Mr. WINSLOW. I am for compulsory training in the particular subjects which you have in mind, but a recent court decision, no longer ago than last week, may be of interest in that connection. A man refused to allow his daughter to take domestic science, and the court upheld him. She does not have to take it, the court says. In the Fitchburg schools, certain boys can take certain training. The law provides that all boys shall go to school until a certain age. The Fitchburg cooperative school plan can not turn down my boy, or a dozen boys if I had them, in the kind of training they call cooperative training.

Mr. LAPP. For the purpose of the record, without wishing to continue the discussion, I would say the decision of the supreme court of any State which would prevent the compelling of studying of certain things which we deem essential and important is archaic and unsocial.

Mr. WINSLOW. That is a matter of opinion. We have a decision from the Supreme Court this morning with three dissenters. If there were only three members of the court, you can imagine what would happen.

Mr. PROSSER. Does it not depend upon what the controlling purpose of the course is? If it is a course in general education and one of the subjects of that course is arithmetic, and the child had been required to take arithmetic, no father would be heard by a court pleading against his child being required to take arithmetic. If a certain minimum amount of home economics is required by the school authorities in the exercise of their administrative discretion as a necessary part of the general training of the girl, as necessary as arithmetic, I do not see how the Supreme Court could distinguish between arithmetic and home economics on any other ground than tradition. On the other hand, should a course of vocational education be set up which is a special training designed only for those who are going to follow certain vocations, and an attempt should be made to force a pupil desiring a general education to take this vocational training when he does not want and is not going to use it, then I think the courts would very promptly decide that such action was an interference with the right of every American child to get the kind of education he wished. It is not the difference between basic or general education on the one hand and special education on the other hand?

Mr. WINSLOW. I think it is a most unfortunate decision, because I am strong for home economics in the schools, whether they be public or private.

(Here ensued a protracted informal discussion which the reporter was directed not to record.)

Miss NESTOR (presiding). Miss Marshall, I want that last statement of yours in the record. Will you please repeat it?

Miss MARSHALL. All this discussion that we have just had seems to me to indicate that we should not call the elementary cooking and sewing, which we give in the grades, and which we want all girls to have as a part of their general education, "vocational training." It becomes vocational training when and only when a girl chooses it as her vocation; that is, to prepare for some special line of cooking or sewing. Then it becomes not a matter of compulsion but of choice.

Mr. WINSLOW. If the General Federation of Women's Clubs could, by resolution, declare that home economics was general education, rather than vocational education, it would help very materially in guiding the action of school authorities in carrying out this plan. It would not then be considered special training, but more in the nature of a general training which every girl should have.

Miss NESTOR (presiding). Mrs. Towner, we are very grateful to you for coming before us this morning.

Thereupon, at 11 o'clock a. m., the commission, after further informal discussion, adjourned.

EVENING SESSION.

The commission met at 8 o'clock, p. m.

Present: Senator Page (presiding); Representative Hughes and Representative Fess; Mr. Prosser, Mr. Lapp, Mr. Winslow, Miss Marshall, and Miss Nestor.

Miss NESTOR (presiding). We have on our program to-night, which is really devoted to labor, the American Federation of Labor and the National Woman's Trade Union League. Mr. Grant Hamilton is here from the American Federation of Labor. We will be very glad to begin by hearing from Mr. Hamilton.

STATEMENT OF MR. GRANT HAMILTON, LEGISLATIVE COMMITTEE, AMERICAN FEDERATION OF LABOR, WASHINGTON, D. C.

Miss NESTOR. Please give your full name and address to the stenographer.

Mr. HAMILTON. Mr. Chairman and members of the commission, the American Federation of Labor, which I represent here, is in favor of industrial education, with a very strong reservation, and that is that industrial education shall be conducted by the State and not by any private interests; in other words, we believe that the United States should cooperate with the States in establishing a system of industrial education, and which practically comprises trade training. We necessarily and naturally are more interested in the boy or the girl who wants to learn a trade, and we would like to have them educated along particular lines, not given a theoretical education without any practical. As a matter of fact, the labor movement itself, as expressed by the American Federation of Labor, is thoroughly in harmony with education along every channel, where it is feasible. We are in favor of the agricultural colleges, and their extension work. We are in favor of universities, and, in fact, every system of education that gives to the various sections of our society an opportunity to become educated either along general or special lines, but more particularly are we interested in the rising generation to be given an opportunity; that is, that that part who are expected or compelled to earn a livelihood by their own hands. But we desire that they shall be educated in a practical way.

The reason I refer to our being in favor of industrial education conducted by the United States in cooperation with the States, and against private schools, is because of the fact that where private schools are operated there is usually a motive behind the private school, which aims, of course, in the end to give some profit to someone; and while we thoroughly recognize that we must take into consideration this equation, that in the training of a student in any of the trades opportunity must be afforded whereby actual work can be performed, then the problem naturally comes as to what shall become of or what shall be done with the product which has been produced by the student. I am not prepared to say, and I do not think that the labor movement is prepared to-day to lay down a rule with reference to that; but we are in a receptive frame of mind to approach that subject for the purpose of reaching a solution that will do justice not only to the boy who produces, but also to the employer or whoever may have control of the product.

I am reminded just now of a little circumstance that just occurred since I came into the room that perhaps may better illustrate our idea as to making our training practical. My friend Andrew Feruseth, the president of the International Seaman's Union, was just recalling some of the testimony taken in this recent disaster of the *Nantucket* and the *Monroe*, and it seems that the testimony developed, as a result of the investigation in that sad disaster, that the drill that was carried on, supposedly for the purpose of perfecting the men employed on those boats—I won't say "seamen," because I do not think they were—but the method which they employed was that they drew a chalk line of the lifeboat on the deck, and when they were called to drill their attention was drawn to the chalk line on the deck of the boat instead of the handling of the lifeboat.

There is another illustration, and that is in the drill of the sailors in the handling of the lifeboats in calm, peaceful waters is far different than when the emergency arises that seamen are supposed to handle the lifeboat in turbulent water and people are to be saved, and for that reason we desire that if industrial education becomes a fact in this country that the children be given a practical education by the actual performance of the work which they are supposed to do in after life.

There is one other thing that I do not think has been called to the attention of this commission—another phase which this commission might do well to take into consideration. You are aware that there has been for the past year a tremendous immigration coming to this country from foreign countries, and, if you have been interested, you have noticed that the great majority of the immigrants coming to this country are listed as "farm laborers and laborers." And yet we have a condition in this country of where the trend is from the farm to the industrial centers, and also that the greater portion of this immigrant labor listed as "farm laborers and laborers" is going to the industrial centers. This population coming over here, as a rule, comes from countries where the educational facilities are not great, and as a consequence those who come here are not educated; in fact, we find a sad lack of education upon their part. Indeed, they have no conception, as we view it, of education. As a consequence, their children have no home training or no intimation from their home life with reference to education; and if this great mass coming over here year after year and year after year is going to be placed in a position whereby they can at least assist in maintaining American standards, some plan must be evolved whereby at least the children of the foreign immigrants must be taken in hand by the National authorities, or the National and State authorities, and that work started in order that we may catch up, because if we can confine our work to our present school system without any reference to the foreign influx we are going to have a problem that probably will sweep our efforts away, and I think that is one of the things that should be attended to.

So far as the need for national grants stimulating the States to give vocational education is concerned, I think that there is no question but that is an essential feature, and surely the United States, as a whole, can afford to assist the various States in a reasonable way in establishing and carrying on these schools. I believe, however, that the States should bear the most of the expense; in fact, I am rather in

favor, and I think our movement is in favor, of insisting that the States provide the sites and the buildings, and that the Government itself pay one-half, or approximately one-half, of the actual running expense.

Representative HUGHES. In other words, the State will just furnish the sites and the buildings, and pay one-half of the actual expense of running the schools?

Mr. HAMILTON. And, in addition, the States would pay one half of the running expense of the institution and the Government the other half.

The third question is, what kinds or forms of vocational education should be stimulated by national grants? My judgment is that all of the forms of industrial education contemplated should be stimulated. We do not want to say to the commission that you should devote all the money to trade training. No. We are willing that the agricultural colleges shall have their share, and we are willing that every other section of education shall have its share, and that share based in some scientific way upon the number involved. For instance, there might be a third of the population that desires and needs trade training. Then, I should say that the one-third of the effort and one-third of the moneys appropriated should be provided to carry on that part of the work; if, on the other hand, trade training only amounted to one-sixth, I would say that one-sixth should be provided, and so on, and I believe that these various sections should be scientifically determined, so that we could devote the proper attention to each different branch of vocational education.

The fourth question is, to what extent? I think I have answered that.

Senator PAGE (presiding). Mr. Hamilton, before you proceed on the next question, will you tell us the views of the American Federation of Labor, that you represent, in regard to leaving to the States the right to place this fund according to the views of a State board of vocational education? For instance, we can not make a law very well that will reach Massachusetts and North Dakota alike, because only about 7 per cent of Massachusetts are farmers, and only a very small per cent of North Dakota are manufacturers. I would like, before you leave this point, if you have not already done so, that you tell us what, in your judgment, is the proper way to formulate a bill that will preserve State autonomy to such an extent that Massachusetts can devote this fund, if she wishes, to manufacturers and North Dakota to agriculture.

Mr. HAMILTON. Oh, well, I should say that that problem could be solved in this way: I understand that Congress can not make a law with reference to this, with the present plan, of course, and I question perhaps with any other plan—insisting that the States follow a specified plan—but they can do this: I think a tentative plan should be drawn up, and that the assistance of the National Government would be contingent upon the States accepting that plan. I do not mean, now, of course, that this tentative plan should be rigid. I think it should be very flexible, so that the States which we at least presume would endeavor to regulate their educational institutions, with a proper regard to the needs of that State——

Senator PAGE. Would you be willing to reverse the plan which you have just suggested and allow the States to formulate the plan and

submit it to the Federal Government for its approval? You say you would like to have the Federal Government formulate the plan and submit it to the States.

Mr. HAMILTON. Just the tentative plan?

Senator PAGE. Yes.

Mr. HAMILTON. Yes, sir; and I said to make it flexible, and I think that under your idea that there would be no objection for a State to contribute anything that it saw fit to the Federal authorities.

I might say that our movement and the men in our movement are not very strong on hard and fast rules. We like to have our rules flexible enough so that we can be what we call "opportunists," and take advantage of circumstances as they arrive.

Senator PAGE. Mr. Hamilton, I know that during the contest in Congress, covering the past three or four years, your organization has taken a very keen interest in this legislation, and you could not have failed to observe that some of our southern friends have insisted stoutly that they would not approve of any bill that took from the States the initiative in this matter; that they, the States, must formulate the plan, and all they are willing that we should do as a Federal Government is to maintain such an oversight as to see that the funds are not diverted from the purposes of the legislation. Having that in view you can see how difficult it is to prepare a law that will receive the sanction of the great majority of the States, unless we leave the initiative largely with the States. Now, I would like to have you address yourself to that proposition, before you get through, whether now or hereafter.

Mr. HAMILTON. I am frank to say that so far as that is concerned I have not——

Mr. WINSLOW. Is it not true that the American Federation of Labor is not committed to any plan?

Mr. HAMILTON. No; it is not.

Mr. WINSLOW. That is the answer to that question, the American Federation of Labor is not committed to any plan at present; they have not seen a plan. Am I not right, Mr. Hamilton?

Mr. HAMILTON. No definite plan. As I remarked in the beginning, we are favorable to industrial education.

Senator PAGE. I realize that.

Mr. HAMILTON. But with a reservation.

Senator PAGE. You have been very strong factors, I know, in pushing this fight for Federal aid for industrial education. You have been exceedingly good abettors and active workers on that line, and I look upon you as great friends of this measure. The point I want to bring to your notice is that we have difficulty in securing the support of the Southern States, some of them, because they feared that we were going to intrench upon State rights too much.

Mr. HAMILTON. Of course, as a matter of suggestion, I might have something to say with reference to it, but I question very much whether it would be proper for me to do so, on account of the fact that the Federation has no plan at the present time. So, I can only speak in a general way upon the proposition. We have had this question up ever since, I think, 1907; and at practically every convention since that, except one, this same subject has been before it, and we had a committee appointed, which did valuable work, and of which Mr. Winslow was a member. They went into it quite thoroughly, but

as yet we are not entirely satisfied as to a specific plan. We have various organizations which, so far as the trade is concerned, are developing a system of trade training. You take the typographical union, for instance, it has a course which it gives to the printers for a very nominal sum. Then we have a local organizations, like the New York Typographical Union, No. 6, which maintains what might be called a trade training school, and it is run by the local organization. It has 160 students, called apprentices to the printing trade. They are taught not only the printing trade but those branches which are necessary for them to become proficient printers. For instance, they are taught grammar and a number of other things, and they have to pass an examination before they are permitted to become members of the organization.

The carpenters have a similar scheme, and a number of other organizations have the same scheme. So, for that reason, you can see——

Mr. WINSLOW. The pressmen?

Mr. HAMILTON. Yes; the pressmen have a general scheme. Among the organizations that have had an opportunity—pattern makers, also.

Senator PAGE. I presume that, through Mr. Winslow, we will get a great many of those details.

Mr. HAMILTON. Yes.

Senator PAGE. You speak of being suggestive. Really, Mr. Hamilton, for one I want you to be suggestive and tell how we are going to sail between Scylla and Charybdis in this great movement, because it is one where we need the advice and council of men who make this a study, as the American Federation of Labor do.

Mr. HAMILTON. I hope I shall have the opportunity later on to do so, Senator Page.

The next question is how can the work of the Federal bureaus be extended to aid, through expert knowledge, vocational education in the various States?

I am not prepared to say as to that question, because it relies largely upon the relations which will finally exist between the Federal Government and the States. That will largely rest upon that fact.

Under what conditions should grants to the States for vocational education be made? That is another question that comes along the same line, whether it be contingent upon the performance of certain things, and I presume that would be the better plan; that is, I should say so, answering it right offhand, that these grants should be given to the States providing for certain things.

On the general proposition, however, I am inclined to say that I see much in it and much more every time I devote what little time I have to the study of this question. I have read considerably and studied this question some, and I get more interested the further I go into it.

Mr. WINSLOW. Mr. Chairman, Mr. Hamilton will be allowed an opportunity, or the American Federation of Labor will be allowed an opportunity, of filing a brief or any further statement that they wish later.

Senator PAGE. Yes.

Mr. WINSLOW. Anything that you had not covered, Mr. Hamilton, you will have an opportunity of so doing by filing a brief.

Senator PAGE. Mr. Hamilton, I hope we may have a further brief from you, and I hope you will keep in mind the fact that we are all troubled as to just the proper course or just the best course to be pursued in getting along with the different responsibilities of the State and the Federal Government and how we can make them cooperate and articulate in this great work, and I think the American Federation of Labor should give us what aid they can in reaching a conclusion on that very important point.

Mr. HAMILTON. We hope, Mr. Chairman, that you will get all the assistance possible that can be rendered by the American Federation of Labor. We realize your troubles, but we have some of our own.

Senator PAGE. Is Miss O'Reilly here?

Please give your name and address and the official position that you occupy, if any.

STATEMENT OF MISS LEONORA O'REILLY, WOMAN'S TRADE-UNION LEAGUE, NEW YORK CITY.

Miss O'REILLY. Mr. Chairman and assembled friends, the Woman's Trade-Union League, of New York City, I represent, and speak for the national organization of trade-union women.

Senator PAGE. Your trade union is associated with the American Federation of Labor?

Miss O'REILLY. Yes. This organization which I represent is made up of trade unionists and people who believe that through trade unions the workers can get what we would be powerless to get otherwise.

It is really with fear and trepidation that I come before a committee such as this, for from my calling as a shirt maker, my vocation as a teacher, perhaps a trained teacher, and my now work as a lecturer to groups of trade people, getting them to see the need for organization, I feel that this piece of work before your committee is the most vital thing in education that has been done in this whole land.

Senator PAGE. Would you like to sit down?

Miss O'REILLY. I would be perfectly delighted to. I feel that, first, because without education we can have no lasting social superstructure; but what is our education to-day and what is it to fit us for? Now, education, I take it, should have for its object to teach us the truth in order that we may be right and thus attain the beautiful. If there is anything true in the world, it is that we all exist and live by industry. If that is true, then it is right that every child that is born, every child that lives, should learn to labor, and if that is true, we can only attain this beautiful by the whole Nation understanding this and putting that as a foundation under all the work that is done anywhere.

That is simply making the whole people understand that labor is a law of life, and that those who obey those laws will live harmoniously.

How can a commission like this get that written into law for these United States? I think you have a very difficult problem, but we have at least started to see and believe that that is what our educa-

tion in a democracy should be—an industrial democracy, as ours is or is tending to become, and will become just so soon as we understand this thing for which the American Federation of Labor stands, or the woman's trades union body stands. All the fights that we make in the labor world stand for what? Getting the whole world to recognize that every child should labor. Ah, yes, and that it should be taught to labor.

Through what avenues of expression must that labor take? Well, I see you have classified them here, and you ask the first question, To what extent is there need for vocational education in the United States? and you ask us to discuss it in certain ways. Well, I say there is the greatest need in these United States for just such an education as training gives, because we are a democracy and because we are tending to become an industrial democracy. From an economic development we must train our people so that you will not coerce them to labor, but that they will be going to their labor because they want to do that thing more than anything else. We can only get at that, I think, by making it part of the public-school training of every child. To me vocational training is simply an opportunity for self-expression. Every child is born with rich possibilities, which may be discovered and developed, and that is part of our work as a nation, to find out what the child can do, and give it its opportunity to do that.

Representative FESS. Do you think, Miss O'Reilly, that it is possible to make a child want to do a thing as a pleasure rather than as a task when forced to do it—that that is within the possibilities of education?

Miss O'REILLY. Yes; I think it is. Of course, all children want to kick.

Representative FESS. They usually do.

Miss O'REILLY. They are not alive unless they do. Now, labor is only a kick rightly directed. Education's part is to take the energy of that child which kicks because it is alive, and make that kick useful.

Representative FESS. The kick is generally against rather than for?

Miss O'REILLY. No; the first kick is that you are glad you are alive, the kick of the baby. If the baby does not kick, you send for a doctor; if it kicks it is because it has energy, and all education is the direction of that energy to some useful work. Labor education should be the direction of that energy into some useful channel.

Representative FESS. I admit if you can possibly reach that result by a system of education so that boys and girls will go to the task that has ceased to be a task but is a pleasure, that you have pretty nearly revolutionized human nature.

Miss O'REILLY. I think that this kind of work will revolutionize things; that is why it is the most important question that we have thought about, I believe, when they were first talking about whether we shall first have public schools or not.

The next branch of education is vocational or industrial—whatever name you want to give it—training which fits the citizen to be a worker and an intelligent worker, and in the trades schools that I know of you have no trouble keeping the children at their work. They like their work; that is, they are given an opportunity to work themselves out in making something.

The trouble begins when we get into workshops and places where we feel that we are not getting a square deal, perhaps, or that we are overworked or overtired and have to resent conditions, and many a child in a factory is a bad worker there, not because it could not be a good worker some place else, but because it is once more the "square boy in the round hole." There has been no preparation in life; there has been no preparation before it has been forced to express itself in that work.

The next question is, Is there need for national grants stimulating the States to give vocational education?

I should say, yes, that there is need for national grants, and I should say that we should do it as a nation. Why? Well, because if anyone else does it we have but one god that we worship in these times and that is "profit"; and they want a return on the capital invested, which is only natural. Now, we as a nation, will want an investment profit on the capital which we invest—the capital which we invest will be the child, the citizens—better citizens, better workmen, better industry all round. The nation of the future which will hold the industrial supremacy of the world will be the nation which makes the things best for the markets of the world. That can only be done through the scientific organization of industry; that scientific organization of industry can only come through the training of the workers. The first place in the training of the workers is the beginning, the understanding by the nation that every worker must be prepared for his work, educated for his work, to see his work and the relation of his work to all the work of all the rest of the world; behind every tool an intelligent human being; understands that every man or woman is a consumer and should be a producer; that in an industrial democracy every citizen earns the bread he or she eats; in no other way, I should say, we can become the people which this Republic is destined to become with intelligence, wise——

Senator PAGE. Miss O'Reilly, Congressman Fess is a college president and I would like to have him take the responsibility of interrogating you.

Representative FESS. She is covering a maginficent field and doing it mighty well. I think I will just let her run. [Laughter.]

Senator PAGE. We are all agreed upon that point.

Miss O'REILLY. I do not know what your little side remark means. I am a factory woman, and I am simply presenting to you what are the fundamental principles under the labor movement. You questioned my brother as to what the American Federation of Labor stood for. I am going to tell you what the labor movement stands for, and what 20 or 30 years ago those among us who were dreamers and visionaries saw was the work of the trade unionists to-day, to teach the world just this thing, which I hope your commission is going to get before it now. There will be no rest, there can be no rest in our industrial world until we have fair play. Fair play can only come when every man does his part and earns the food he eats. "Man" means woman in this case; and that can only be done by recognizing again that first principle of the labor movement, that labor is a law of life, and that every child must obey that law.

Representative FESS. The question you are speaking to now is whether Federal grants would be necessary?

Miss O'REILLY. Yes.

Representative FESS. Why should the Federal Government do it rather than the States?

Miss O'REILLY. Because, as the Federal Government it will have, I should hope, opportunity to see or to investigate, to find out just what the needs of each State are.

Representative FESS. Would the Federal Government do that as well as the States? Could not the States do it better?

Miss O'REILLY. I should think that the Federal Government. If it is the Federal Government, there are some things which our Federal Government does, as a federation of States; there are other things which the States do as States; and on a question like industrial education, or vocational education, that is a question for the whole nation, for, in the States, there might be State interests which would work narrowly against the interests of some of the children of that State. Of course, that is only my seeing of the matter.

Representaive FESS. In case a situation existed where conditions in the State would work narrowly for children, would it be possible, you think, for the Federal Government to interfere in the matter of the States; that is, could we relieve, as the Government, a situation that obtained in the States?

Miss O'REILLY. I should think so; but if you want to answer questions of what is going to happen in the future, before you are taking the first step, I think you will never get any place. You have got to say that we will start with this plan, and our plan is so and so. We ask the Federal Government to do something; now, if in so many years, you see that that is not right and why, then you shall have to change your plan. You can not make any hard and fast plan as to what you are going to do for all time, but in your judgment or in your commission's judgment, the first thing is to have this a national thing. First, make your plans; see to it what would be a good thing, the wisdom, of course, of the commission—granting that your commission is wanting this thing—the opportunity for self-expression of every child in every State, that that shall be the education of the child; that it get an opportunity to work, that this work should be carried on; that the training for this work should be carried on in the regular public schools, and that the Federal Government make the first plans and give the grants. This is the question, Is there a need for national grants stimulating the States to give vocational education? And I say, I think there is.

Mr. PROSSER. Miss O'Reilly, one of the strong arguments which has been used in favor of national grants for vocational education has been that of the great mobility of labor. It is pointed out that the man may be trained in one section of the country and will serve all his life as a mechanic in another section of the country, and if he is trained at the expense of the place where he is born and reared he uses that better workmanship and better citizenship to the advantage of his new home. The recent studies by the Russell Sage Foundation seem to indicate that in some parts of this country 75 per cent of the young men who are employed in industries were not born and reared in the place where they now live. What is the situation with regard to mobility of girls and women in industry? Do they occupy fixed places or are they beginning to shift around from one locality to another like the men?

Miss O'REILLY. I think they shift some; perhaps not quite so much as men. But, of course, thinking of it from the labor point of view, wherever they go they carry with them that thing which they have learned how to do, and it is the Nation that will benefit from their movement.

Miss NESTOR. I think it is fair to say for our women that they shift from one occupation to another more than the men because they have had less training; they have not had the opportunities that the men have nor devoted long time to apprenticeship.

Mr. PROSSER. They do not shift from State to State and they do not shift from city to city. They have more tendency to fixed habitation, have they not?

Miss NESTOR. I do not think there are so many. I think this is more true in men's trades than in our work. You take the structural iron workers. They go from one end of the country to the other, and there are other trades the same. The nature of that employment takes them from one place to another. It is not a local trade. I think our women's trades have been more local than men's, do you not think so?

Miss O'REILLY. Yes; but I think that is a thing that is passing.

Miss NESTOR. It is passing, but it has been so.

Miss O'REILLY. We have not had the "tramp" printer, but we have tramp hatters and a few other things among the women's industry, and women are not going to be fixtures so much any more; so I do not know.

Representative FESS. What is your opinion as to the value of that? Is it an injury to be going from place to place or is it an advantage?

Miss NESTOR. I think sometimes it is a distinct advantage.

Representative FESS. I should think it might be an advantage.

Miss NESTOR. I know in my particular trade, that of glove making, to a great extent they change around. There are not so many places where they are employed.

Representative FESS. Miss O'Reilly, the matter before our commission is specifically to know what we can do as a Federal Government and what it is best to do.

Miss O'REILLY. Yes.

Representative FESS. These questions were formulated to bring out the facts whether the Federal Government should initiate this work, and whether it should help to maintain it—help the States to maintain it—and whether it would give any prestige to the vocational education attempted by the States. All of those questions are matters that will help to determine what we shall do, and we want those, like yourself, who have been in the actual work to give their opinions.

Miss O'REILLY. I said right from the start that I think the Federal Government should make grants which will stimulate the starting of such schools.

That next question, are Federal grants——

Senator PAGE. Is not that question of stimulation, so far as the Federal Government is concerned at present, the great question? If the Federal Government would step in and stimulate the States to take up this work by paying, say, one dollar where the State pays two dollars, will not that stimulus bring the results which you are seeking to accomplish?

Miss O'REILLY. It may. I could not say surely, because you have got to see how much you can do with that one dollar. What

are they doing now and how much work can you get them to do, always having in mind this end which I maintain is the end of education, and especially vocational and trade?

Senator PAGE. You live in New York, for instance?

Miss O'REILLY. Yes.

Senator PAGE. If the Federal Government shall do something to induce New York, or, to be more concrete, New York State, to take hold of this work in the way as suggested, it will accomplish a great deal?

Miss O'REILLY. Yes.

Senator PAGE. You would simply go ahead and inject into the movement a life which would remain dormant but for the stimulus which Federal aid would give?

Miss O'REILLY. Yes.

Senator PAGE. Still allowing New York City or New York State, in its own way, to work out the plan which is best adapted to the workers of that State?

Miss O'REILLY. Yes. But there might be another State, if this commission is wise enough to see the Nation rather than New York—if this is answering your question—that needed stimulation, and that would be the place for it to go and give a grant and to find out just what the natural weakness of that other State was, and then stimulate investigation and training along the lines which would be best for the industries of that State and best for the Nation to have developed.

Senator PAGE. I think you have struck the keynote right there. The Federal Government goes into New York and it stimulates New York State to take up lines of education that are best adapted to your State.

Miss O'REILLY. Yes.

Senator PAGE. It goes into Vermont, and it takes up another line. It stimulates Vermont to take up the work, it leaves Vermont to adapt herself to the particular kind of work which we do in Vermont, which we perhaps do differently from what you do it in New York, even though it is the same work.

Miss O'REILLY. Yes.

Representative FESS. In your observations, Miss O'Reilly, would you think an assistance that we might render as a Government to New York could be applied the same way that it would be applied in Cincinnati or in San Francisco? Would those conditions in various cities and various parts of the country, representing different industrial situations, be so varied that we could not make provision that would be applicable to all?

Miss O'REILLY. That is a very broad question. Now, if you will tell me what you mean by "those conditions" I may be able to answer.

Representative FESS. My question is suggested by an answer that I am wanting.

Miss O'REILLY. I thought so. I will make my answers; but you make your answers.

Representative FESS. Legislation, you know, must deal with general laws. We can not make a law specifically applicable to one place that is not to another. Can we make a law so general that can be applicable to all the States and secure the results you wish?

Miss O'REILLY. I never saw a law that was made that a lawyer could not get around, if you want that sort of thing. Nor I never

saw a law that you could not carry it out if there were interests that insisted upon carrying it out. But I am not talking in that sort of a way to this group of people, because I think you are in earnest, but I do not think we who know the North can go down to the South and tell them what they must do down there, because there are conditions which are special to that region. I do not think we of the East can go to the West and tell them what they must do—"This is what you must do." Therefore, in the beginning of my remarks, I gave you the general ideas and principles on which this whole thing must be founded if it is to last; if it must go on, that some sort of training for industry and for life must be given to every child; that perhaps in every State they will know best what they can do with those children when they are training them. As the Nation, our business is to see that they get that training. If the Nation can give the first impetus, make the first move, it will stimulate the thing, and the State through honest men will come in and help to get the thing started. Then the State always has a right to say what it can and what it can not do.

Representative FESS. May I ask how many people are to be heard here to-night?

Senator PAGE. I think Mr. Prosser can tell us as to that.

Mr. WINSLOW. This is all.

Representative FESS. I was wondering whether there were a great many people here.

Senator PAGE. Then we do not need to hurry.

Mr. PROSSER. Miss O'Reilly, what would you think of this method of carrying out the suggestion you made: Suppose that a Federal statute were drawn, giving grants to the States, under certain general broad conditions, this money to be disbursed by the State through State boards of control, selected by the State—in most cases the State board of education? Then, to have the Federal statute set up a working relation between the national board or national authority and the State board of control for the States. The State board would come to this national board and say, "The conditions in our State are such that we recommend this plan, which we want to try out." When the representatives of State and Nation came to a meeting of minds on any plan adapted to meet State conditions, then the State board of control, entirely free from the National Government, would put it into operation. The State would receive the annual amount and give it out to approved schools in the State, coming back for further discussion only when it made changes in its plan. In this way the State would receive grants from the National Government as long as it carried out the terms of the partnership set up between the Nation and the State. Would not a plan of the kind provide for the things which this commission has in mind?

Miss O'REILLY. It seems to me that that is fair and just, as I can see it. All those things only need honest men to carry them out, or honest women.

Senator PAGE. Miss Marshall, you have an experience along the lines of Miss O'Reilly's knowledge, which no one else has, unless it is Miss Nestor. Have you some questions that would throw light on this matter?

Miss MARSHALL. I do not think I have anything especially to ask Miss O'Reilly yet. I may have some as she goes on.

Representative FESS. I suggest that she be allowed to go ahead until some one interrupts. She talks as if she knows what she is talking about. [To Miss O'Reilly:] I mean that as a compliment.

Miss O'Reilly. I take it as such, because I think I do; because I feel that this thing presents itself perhaps from three sides to me, and therefore, as a worker, as a teacher, and as a person who wants, when these people are trained, that they shall receive in return for the service they render a life full and sufficient for the service which they render that State in which they are working, the industry that they are following, and that in all these things which we start and which we think about, the essential thing is honest men and honest women to carry out the plan. Almost any plan will work this thing if we can get honest people to carry it out, and I hope that is the work of this commission, to see that that can be done in the different States.

Then I am asked what kinds of forms of vocational education could be stimulated by national grants.

I think I answered that in one of the questions that you asked me in saying that each State has its special work. It may not be each State, but each division of our country may have some special industry which is its special function to develop. For myself, as all labor divides itself in my mind, there are five groups: There are the works which we call the extractive, the agricultural, the commercial, the transporting, and the immaterial work. All labor done anywhere can be classified under those five headings, and we would have to find out what one branch of those callings would be in in a special part of our country, and that is the work which should be developed in that part of the country.

Representative FESS. Miss O'Reilly, let me interrupt you by a question. Do you, in your observations, have confidence that people or children, boys or girls, are especially adapted to do one thing rather than another, so that they can do one line of work better and more joyfully than they can another part? You spoke about getting the "round boy in a square hole."

Miss O'REILLY. Yes.

Representative FESS. You believe that there is that difference in boys and girls, that one is adapted to do this or that particular thing better than another? What is that due to? Is it an environment in which they have lived, where they have seen this work done?

Miss O'REILLY. That, too, is a very big question. It is almost like the way of thinking that every woman was born to be a cook, and she is not. You know it is unjust to think that because we have been cooking all our lives is the reason we are going to go on and be cooks forever. I know, for instance, that every child has something that it can do. With the observation, with the watching of a trained teacher, you can find out what children do with pleasure and what they will not do.

Representative HUGHES. In other words, it has a natural gift along certain lines?

Miss O'REILLY. A natural tendency, capable of training and development. That child will live happily if it gets its work to do.

Representative FESS. That is the next question I was about to ask. I think everybody will admit that a person can not do all things

equally well or that all people can not do one thing equally well. Conceding that difference is existing, is there any way for us to avoid these misfits? How would you proceed to do that? What sort of education is it with which we would have to reach such results?

Miss O'REILLY. Of course, with the training which every child receives in learning its A B C's it should begin the using of tools, of knowing how to use tools. In Miss Marshall's school almost every girl who came in wanted to be a milliner. Why? Because she liked pretty bonnets. After trying to make bows and finding out how difficult beautiful bows are to make and how ugly you can make them unless you have it in your fingers, they give up their desire to be milliners and take up something else that they can do better.

Let the children first try to do the thing which they want to do, and if they prove to themselves that they can not do it then they are convinced; and if we could convince a great many of our people who want to be other things than they are that they can not be those things, we have a contented people.

Senator PAGE. We are hearing a great deal said now about vocational guidance. How would you apply that to the particular schools with which you are connected? Do you have some psychological rules, or otherwise, that give you this knowledge as to vocational guidance, or is it an inspiration, or is it simple observation? How do you reach the knowledge of whether a girl should be a cook or a milliner?

Miss O'REILLY. I think it has been largely reached thus far in the girls' institutions, and I am hoping that this plan of vocational education will take it out from that. The girl has got to do the thing not that she may be best fitted for but that the market is asking at the moment. Those that are looking after the vocational guidance are simply studying children as they work.

Miss MARSHALL. Miss O'Reilly, do you think that trying out the different things, a child does learn what she is fitted for herself better than by having someone talk to her about it and analyze her?

Miss O'REILLY. Ever so much better. It is the vocation that comes from doing, and that is what vocational training and all this industrial training is going to give us.

Miss MARSHALL. I should like to ask you, Miss O'Reilly, if you do not feel that since all girls are going to be in the home the important thing for them is to be trained in home making, and if you feel that they should be trained for other vocations besides that?

Miss O'REILLY. I do not know that I understand just exactly what you mean by home making.

Miss MARSHALL. We hear a great deal about the fact that since girls are spending such a short time in industry their training should not be for a special vocation outside the home, but should be for home making especially. I should like to have your opinion on that.

Miss O'REILLY. So many of us have not anything like homes, never have any homes, or are going away from homes into the factories and the mills, and if we do make the mistake to get married we go back to the mill afterwards to help support the children which may come and can not be supported by the wages that are paid in the mills. No, I think it is a very great mistake if you think there should be no special training in this vocational work except to fit women to be cooks for

other women who do not want to do their cooking, and that is largely what it means.

Miss MARSHALL. That is not exactly what I mean. I mean that the vocational training be directed to a girl's preparation for her own home. We hear on all sides, "These girls are not going to remain at work for wages; they are soon to marry, and therefore their vocational training should be along the lines of home making."

Miss O'REILLY. Home making—I think homes are made by men and women, not by women, and if that is a preparation then the training of boys and girls should be the same. That is, do not let us everlastingly put the girl off in a corner making bows when she might make a much better carpenter than the boy. Forget, if you can, in education for a while that this is a female and that is a male. Here are people with hands to be made useful in order that they may do things. If a girl can drive a nail better than a boy don't call her a tomboy for doing it. That is the way we twist these things. And if a boy can sew on a button better than a girl, why, let him sew on his buttons.

Senator PAGE. In the evening paper, Miss O'Reilly, there was an article in regard to the number of children dying before they had reached the age of 1 year, and it is a terrible story to believe to be true. Now, don't you think, in view of the fact that some 70 or 75 or 80 per cent of all girls do get married, there should be in connection with this work which you suggest in regard to the factory some knowledge of motherhood given to them somewhere before they reach the marrying age?

Miss O'REILLY. Yes. But I do not think that 70 per cent of children die because the mother does not know how to take care of them. It is very largely due to prenatal conditions. The mother may have been so overworked in the factory or mill that she never should have brought a child into the world. Those are fundamental economic conditions that we are going to face when we get going. But those deaths are largely due to the housing and feeding and all that. And no training you could give a girl for motherhood, unless the lad had a training for fatherhood, too, would reduce the death rate, I think.

Representative FESS. You would be interested to know, Miss O'Reilly, that that question has taken hold of Congress, and there was reported from the committee a provision for $25,000 to be devoted to the Children's Bureau to make such investigations, and the House increased it $139,000.

Representative HUGHES. They gave them the amount which they asked for—$165,000.

Representative FESS. We did not get quite the total amount, as I remember.

Mr. WINSLOW. $139,000 is reported in that bill.

Representative HUGHES. In addition to the $25,000.

Miss O'REILLY. The next question is as to the kinds of schools—all-time, part-time, and evening. In answer to that, as a worker I see "evening" here, and I feel very, very strongly against evening schools for vocational training. The workers in the factory have expended enough energy in their day's work, and if these children that are born are to live they must come from good stock. And we

all know that every employee to-day has a certain amount of energy which he can expend. If he expends more than that he is drawing on the future. I know; I have seen so many starting out, full of ambition, to take a course in something or other, and go halfway through the year and be exhausted, worn out, overworked in the day and trying to carry a weight too great for them, and disappointed forever.

Senator PAGE. Miss O'Reilly, the discussions so far as I have observed in regard to evening work have all been with a view to limiting that work to adult men who are working in the shops and who believe that by adding some technical instruction to their day's work they can grow faster in the shops, and the fact—if it be a fact—is often stated that the men who do this are really better off in many respects than they would be to spend their evenings in the saloons.

Now, that may be an unfair characterization. I am simply giving that as some of the suggestions that come to us. But I have not heard anyone, in my talks with people who were bright in regard to this matter, suggesting that children or even women who worked in the factories should attend evening schools.

Miss O'REILLY. I think in some of the States where we have schools they are trying to get evening schools, and there are some evening schools, are there not?

Miss MARSHALL. Yes, there are. I understand that there could be no differentiation made between men and women, and if the Federal law provided for evening schools it would have to be for both.

Senator PAGE. I had gathered from what I had heard that to allow women who had worked eight hours in a factory to go into an evening school was little less than criminal, while men who have worked eight hours, because they have greater strength, may go into evening schools and be benefited by them. Not that we would deprive women of the benefits of the evening school if they wanted it, but the suggestion usually has been that they have not the physical strength to pursue studies in the evening and ought not to think of it.

Miss MARSHALL. I think that has been the general feeling.

Senator PAGE. Here is a question that I should like to have your views upon, Miss O'Reilly. It is (e) in question 3: "The training of teachers in any of these lines." To introduce this matter, I think Miss Marshall has been of the opinion that the better place for teachers to be trained is in the schools themselves. Am I right about that, Miss Marshall?

Miss MARSHALL. No, you are not right about that, Senator Page. I do not think I have given that opinion. I believe that teachers of trades in the schools must have had their training in the trades. If this is supplemented by school training, so much the better.

Miss NESTOR. That they should come from the practical workers.

Senator PAGE. Yes; not from a normal school.

Miss MARSHALL. I have meant to give as my opinion that for many lines of trade work we should have the woman who has had actual trade experience.

Senator PAGE. And not necessarily normal-school training?

Miss MARSHALL. No, not necessarily so, although normal-school training may be supplementary.

Senator PAGE. I understand that.

Now, I should like Miss O'Reilly's views about that. Where would you get the teachers, Miss O'Reilly, to teach these vocational subjects?

Miss O'REILLY. If you make that vocational training trade training, preparation for trade, I should have them trade workers.

Senator PAGE. Take them out of the shops?

Miss O'REILLY. Take them out of the shops, skilled, intelligent, trained workers. And if you have a supervisor over them, have a pedagogue if you will, a person who understands whether the trade worker is getting the idea before the child in the best possible way. But as the child is developed by learning to do the thing with her hands, so the best possible trade teacher is the man or the woman who has done the thing with his or her hands.

Senator PAGE. Now, may not a preliminary education that is somewhat general be still vocational? For instance, you ask a milliner to come into your school, and she can teach only millinery. You secure a maker of hats and she teaches only of hats. Now, is there not a possibility that you can give the foundation for this specific work during the earlier years of a child's vocational education, through a teacher who can teach several things or lay the foundation for education in several branches?

Miss O'REILLY. Yes; I think so, if I get your question correctly. If it were a trade like machine operating, like the public-school course is going on, the child can learn the construction of a sewing machine under a woman machinist, who, as a part of her work, knows a machine, and she can learn from that person to do many things that are done on machines. When she develops to be a tailoress or dressmaker, she goes to her special teacher to teach her that thing.

Senator PAGE. At what age would you commence this general education? I think you said you would begin it with the A B C's? You would not expect an expert machinist to go into the school and teach a child 6 years old. You would give the child some foundation to work upon, and when he gets to be 14 or 15 or 16 you would bring in your experts?

Miss O'REILLY. Your expert for a trade? Yes; but I see no reason why your machinist, if he is a good all-round machinist, should not teach the child of 6 as well as the child of 14.

Senator PAGE. There is a general idea prevalent that we do not want to apply these rules to a child under 14. You do not acquiesce in that idea?

Miss O'REILLY. This principle with me is so vital that the child would start planting potatoes as soon as it saw things come out of the ground. Children learn through seeing and doing, and the planting of a thing and seeing it come up teaches it truth as it can be taught in no other way. The measuring of a piece of goods 12 inches, being told that it is to be 12 inches, cutting it 11 inches and trying to pass 11 for 12 teaches truth in a way that a hundred experiments never will teach it. You can not lie an inch on to a piece of material; the fact is there facing you. To teach children that would be the beginning.

Senator PAGE. Ought not the ordinary cultural education to inculcate those truths that you have mentioned without undertaking to bring into the schools anything that we are now trying to reach under the name of vocational education? Won't your ordinary

teacher in the school be able to do all that without bringing in anything that pertains to the work now under discussion?

Representative HUGHES. As I understand you, Senator, your idea is that before you begin to give a child any vocational education, or trade training, or something of that sort it ought to have the advantage of an elementary or common-school education?

Senator PAGE. I think the curriculum can be so adjusted to the child that it will get the point suggested by Miss O'Reilly without introducing what we term vocational education in our legislation here, because I think all of our legislation here has sought to limit the years when they may avail themselves of this legislation to 14 and above, or possibly 13. None has ever suggested any age below 12.

Mr. PROSSER. Miss O'Reilly, what Senator Page has in mind there is what we sometimes call manual work, or manual activity, or hand work in the graded schools, which is put into the course as a part of the regular education for the purpose of waking children up, giving them the directed hand work which lies at the basis of all intellectual growth. Our minds grow in proportion to our muscular activity in our younger years to a very great extent. This manual work would in this way serve as a means of teaching and as a basis for educational work to follow in later years. Now, the legislation we are talking about defines vocational education as the education whose purpose is to fit for useful employment, an education which we know could not be given successfully to anybody under 14 years of age.

When Senator Page asked the question a moment ago as to whether you thought it would be possible to have somebody in the elementary schools give a lot of these things, the thing you had in mind, Senator, doubtless was what we call the prevocational education, the manual activities of the elementary schools.

Senator PAGE. That prevocational education is something almost new to me, Mr. Prosser, and I am very glad indeed to have you introduce the matter and define the difference between prevocational and vocational education.

Mr. PROSSER. Most people think of drawing the line squarely at 14 years of age, because we do not believe you can fit people under 14 for a vocation; and because we believe it is the spirit of American educators to use the time of the child from 6 to 14 years for laying a basis in general education. Now, if you introduce a little cooking, a little sewing, and so on, your large justification for it is as a social training for the child and not as vocational training. It is a misnomer to call such work vocational education. The trouble is we can not understand each other.

Assuming we use the term for those over 14, you have a stretch of years between 12 and 14 where many of the schools are developing what they call prevocational education, as a part of a general education, whose large aim is to enable children to find out what they like and what likes them, so that they may either go on for more training after 14 or go to work. In either case they are better prepared to make an intelligent choice.

Miss MARSHALL. What I understand Miss O'Reilly to be asking about is a better general education, so that all children shall learn to labor. Am I right?

Miss O'REILLY. Yes.

Miss MARSHALL. And we are talking of that particular phase of vocational education which is to be given after the child has discovered what she or he chooses to pursue as a life work. I think we confuse terms. As I understand you, when you speak of vocational education for the children you mean that all children shall have it?

Miss O'REILLY. Yes.

Miss MARSHALL. Then you are talking about a reorganization of our general education, in other words; that is, that all children shall learn to work; that all children shall have this foundation, which is the law of life, which is to learn to labor?

Miss O'REILLY. Yes.

Miss MARSHALL. I think that is what brings about our confusion all along the way, because some of us think of vocational education beyond this; that is, as an education for some specific trade or industry, or calling—training for profitable employment.

Mr. PROSSER. We have the same thing in mind. We all approve what Miss O'Reilly has said; but if we were trying to get together to talk, we would call that "hand education," for example, or some such term.

Miss MARSHALL. I think Miss O'Reilly means a great deal more than that.

Miss O'REILLY. Yes; a great deal more.

Miss MARSHALL. That it shall introduce some of these real principles of labor; not be merely illustrative.

Miss O'REILLY. It would be a great deal better without a great deal of this smattering.

Miss MARSHALL. As we have practiced it, it is mainly to illustrate, and it does not give the child the vital understanding of labor.

Mr. PROSSER. I saw a significant statement not long ago in the catalogue of an English school. The writer said, "Formerly we had too much work and not enough school. To-day we have too much school and not enough work." He meant just exactly the thing that you are saying, that we do begin entirely without the basis and do eliminate from our education and almost from our methods of training the things that children were able to get in former days.

Miss O'REILLY. Your idea of vocational training is to give the next possible step, or the first possible step——

Miss MARSHALL. The next possible step. Some of us, I think, believe that that will revolutionize to a large extent our general education as a preparation. The thing that we are aiming at now is the special training for vocations for those who have no chance in our public schools to be so prepared.

Senator PAGE. Miss Marshall, someone, I can not think who it was, said that the time was coming soon when we should reach the cultural through the vocational; that we should teach arithmetic in terms that give the pupil a knowledge in the concrete of the things that he was going to practice later on. For instance, if you are teaching mathematics you take, for example, this problem: "The tensile strength of a quarter-inch rod of round iron is so many pounds. How many quarter-inch rods will it require to lift an engine weighing 87 tons?"

Mr. PROSSER. The thing you have spoken of there is valuable just in proportion as the pupil has had a basis of experience in the tensile strength of materials.

(Here followed an informal discussion that the reporter was directed not to take.)

Senator PAGE. As we grow in our theories of vocational education, don't you think that textbooks will change from year to year, so that instead of being altogether abstract as they were when I was a boy they will be more along concrete lines, so that you give to the child a great quantity of fact that he would not get under the old arithmetic that I studied?

Mr. PROSSER. Senator, they have done that now. The trouble is that the objects with which they deal lie beyond the knowledge of the child, and so he is just as bad off practically as he would be if he were solving abstract problems.

In the schoolhouses to-day we are papering imaginary walls, calculating the cost of digging imaginary cellars, and building imaginary walls. None of this lies within the experience of the modern child, shut off, as he is, from real things.

Pestalozzi and Froebel startled the world by teaching children on the basis of their actual experience with things. Pestalozzi took a lot of boys out on the farm, and he used in his teachings the things those boys were using every day. The work was a success from the teaching standpoint.

In our regular schools to-day, just as soon as the first two weeks have gone by we have exhausted every bit of common experience in the lives of those children, and we can not get any more, because we have to meet them only in the schoolhouse. We can not take them out and give them a common experience and come back and teach it. Vocational education for those over 14, and prevocational work for those between 12 and 14, and handwork in the lower grades gives such a common experience and for this reason reaches many children who have failed by the old methods.

(Here followed an informal discussion which the reporter was directed not to take.)

Miss O'REILLY. In connection with this question of whether we shall be able to make the school as real as life, a problem in all industries, in all our work everywhere, is to make the people value time, especially how to make factory people understand that time is lost if they do not appear at the time they are supposed to appear. That is the employer's side of it. The worker's side of it is that when we are busy we will rush in, and when we are not busy, why, we will slip out when we can. This thing has often been thought of as a thing to put pressure on the workers, to make them do more work. Now, as a trade-unionist, as a laborite, that is not my motive. But, seeing that time is the one thing in the universe that we all have, that regardless of who we are or where we are or what we are, we are all given 24 hours to a day, the use that you make of that is what proves you a man or a woman. If you waste it it is gone forever.

Now, how to get a thing as fundamental as that into the minds of not overbright children, children who would have to go into the factories to work, is a problem. That is the thing they would be face up against if they saw it as a reality. If it was put on them as a punishment they would fight it.

What can you do? Do this. Get a common basis from which to teach this, that we have 24 hours to the day, that every child has so much time to spend at her vocational or trade training, that for

everything they must pay a certain amount of time. You have so much to spend in one department, and you can spend it looking out the window or playing, but the time is gone.

Well, as a fact, it works as a way of making the children value time as well as teaching them arithmetic. They can be paid in time. They are paid a certain amount for every garment they make, not money, but minutes, and those minutes can be taken at the end of the day, or the end of the week, teaching them the value of time, but also teaching them to keep their books as they would have to keep them when they would go into a factory, to do their own addition, their subtraction, their division. It also teaches them to demand justice. If they think at the end of the week they have not been properly paid they have the courage to come forward and say so.

Now, that is a simple method of giving them arithmetic which is arithmetic in terms of life, terms of time. It seems to me a fundamental thing to teach every child in every school the value of time. After labor comes time. We have all got time; on that we are all on an absolute equality. What use do you make of your time? How can you get that into the heads of girls between 12 and 16 years of age? By letting them see the justice of it.

Senator PAGE. Will you not eventually make them tired of life by placing such a great value upon time that they feel unwilling to have play? A child must have play, must have hours for play, in order to be a happy, healthy child. You would not burden them with the idea of time so much that they would feel as though they could not afford it?

Miss O'REILLY. I would burden them so with the idea of time that they would get up a good strike for 8 hours play and 8 hours work, and if I tried to get them work 8½ hours to want to strike for that half hour. It belongs to them. What for? To play. It is not only for work.

Miss NESTOR. I think there is a great deal of confusion in regard to the girl training. We have had it brought in here by some of the speakers who have appeared before us in regard to this home economics, and I would like to have you, for the sake of the record here, tell us how you feel from the point of view of the worker on that question, whether it ought to go in as part of our training in general education, or how far it ought to be termed vocational training, or whether it ought to be termed that at all.

Representative HUGHES. That will have to be discussed before this Congress.

Miss NESTOR. We have had the woman outside tell us her interpretation of that. I would like to have you as a worker put your inter pretation on it. You see, it is so often termed vocational. By home economics is generally understood some training for the home, as sewing, cooking, and all sorts of training for good home keeping.

Senator PAGE. Including hygiene, ventilation, art, first aid——

Miss NESTOR. It can be very broad.

Miss O'REILLY. Under no consideration would I think of that as vocational training. That would go in under what Mr. Prosser speaks of as general education. Take the children of 5 years. When they go into the kindergarten they can be taught ventilation. They can begin to learn how to cook in their first classes in the primary department, and all that.

Senator PAGE. You speak as one who labors. Don't you think the conditions are so different between the city and the country that, whereas every girl there sees home making as something very important in her life, the city workers in the shops regard it as very much less important.

Miss O'REILLY. Yes; only I think that you could do it in your public schools. You have public schools in the country as well as in the city.

There are some women especially—I don't know whether there are any men—that are almost half mad on the question. And it is not vocational training; it is preparing people to go in and do the things they do not want to do themselves. They call that home economics. That is not home economics; that is doing other people's washing, ironing, and cleaning because they do not want to do their own.

Senator PAGE. I think, if you would go into a State like Vermont, or Iowa, or Georgia, you would find that the girl there in three cases out of four is looking to her future as a home maker. There is occasionally a girl that wants to be a stenographer or wants to be a clerk in a store, or something of that kind. But we have so few factories and mills that the girls in the agricultural States think of their future lives as married lives, and themselves as home makers, as bearers of children, etc. And I think that what you might state with absolute propriety as to city life would be inapplicable to the great rural communities of this country. What do you think about that?

Miss O'REILLY. That comes from the spirit in the masculine mind wanting "to find things comfortable to hum." [Laughter.] And he wants this female prepared to do it. And I don't want it done. If it comes in the regular education as we have to learn our grammar and other things, all right, give that with them, but I believe in privileges for none. That is the brother asking that the girls shall be prepared to serve him. Let us go together in this thing.

Representative HUGHES. That is between the husband and wife on the farm. They each have a certain duty to perform.

Senator PAGE. I think the husband is just as faithful and devoted to the wife as the wife is to the husband. I think he performs his share of the labor.

Miss O'REILLY. His share, which is one-third, while hers is two-thirds.

Senator PAGE. I am wondering if you are not looking at the home from the viewpoint of city life rather than farm life, where the woman's entire work is in the home. I can not say what the proportion is, but I should think that much more than half of all Vermont girls are taught to look upon the farm home as their future field. Perhaps they may do more than their share; I am not questioning that. Still, if you could see our Vermont farmers get up at 4 o'clock in the morning, milk the cows, and then go out and do a long day's work on the farm, and when they can not see to work any longer come back and milk the cows again, and get things ready for the morning, you would find that the farmer's life is not comparable with your eight-hour day for your city worker. It is on different lines altogether.

Miss O'REILLY. I know that; but for all that I think, for the sake of the harm that it might do in other places, that that ought not to go in as vocational, as a recommendation from this commission.

Miss NESTOR. Miss O'Reilly, don't you think that to a considerable extent that training is now being given in the large cities as generally understood?

Miss O'REILLY. You mean cooking?

Miss NESTOR. Yes.

Miss O'REILLY. Yes; I think so.

Miss NESTOR. Would you term that home economics?

Miss O'REILLY. Yes; I think so.

Miss NESTOR. I think it properly belongs there. It is really part of the general education instead of vocational, unless, of course, the girl on the farm that Senator Page speaks of is really looking forward to her work on the farm as a vocation.

Senator PAGE. Precisely; and if you would go into our rural schools you would rarely find such a thing as the teaching of the vocations, except to a very slight extent. The girl is taught by the mother, and perhaps that is where she should be taught, but now the processes of life are so severe that she must know more—she must understand the food values of different kinds of food—she must know all those things in order to live in these strenuous times.

Miss O'REILLY. Ought not that to go in, say, as dietetics then; as a special branch for men and women?

Senator PAGE. Well, men don't do the cooking in Vermont.

Miss O'REILLY. Perhaps they ought to. Here is again the point of view that a woman must be a cook. Now, in all our good hotels we have men chefs; they are the best cooks. They are there because they are the best. Why should we not get out of our heads this idea that women are made for that kind of work and men are made for the other kind? If a man is a better cook let him cook, and if a woman can do better work on the farm let her do it.

Representative HUGHES. Let her plow?

Miss O'REILLY. If she can do it—and now, with electricity, we will just press a button.

Representative HUGHES. And you have to use an ax sometimes, you know.

Senator PAGE. But the Lord has seemed to give man the more muscle, and to swing the ax and to dig the ditch, it seems to me, is more appropriate work for man. I went to Europe a few years ago, and in the city of Antwerp I saw the women sweeping the streets. I went down into the hide houses there—I am a hide dealer myself. There those ships were coming in from South America loaded with hides, and the mean, unpleasant, dirty work of unloading was being done by girls on those docks. I came home with a much higher appreciation of my own country than I had before. I do not want to see girls in this country plowing or cleaning out stables or milking the cows when the men can do it. I confess that in former years women did a great deal of milking, but we have learned to-day that that is man's work. The Almighty, it seems to me, has ordained that woman do the housework and the man do the work which he does. I do not think you would change that yourself.

Miss O'REILLY. Perhaps not, but I would not let the women go in the slaughterhouses either, and yet we have women here in the slaughterhouses.

Senator PAGE. I am ashamed to say that you are correct.

Miss O'REILLY. They are there, and the Lord Almighty has said nothing until we made a kick about it. I am not saying anything against the Lord Almighty, but we see what the Lord Almighty is doing. I see that in those other countries the women are behind the plow; they are doing all that sort of work. If man has this strength, well, it is because he has exercised that way. There are many fine, strong women that would be no worse off for working out in the open fields than they are for working indoors in mills and places where they lose the little strength they have.

Senator PAGE. I am confessing that, so far as the mill work is concerned, so far as the work you refer to in the cities is concerned, one condition exists, but I think you must discriminate between the city and the country. If you go into the country, you will see that the better element of society condemns anything that seems to look like a woman going out on the farm and working, unless, for instance, the husband is stricken, and then, if she is a good strong woman, she goes out and works and we applaud her. But we generally go and do the work for her. I think you have to discriminate between rural life and city life.

Miss O'REILLY. You have to.

Miss NESTOR. I think there is a great deal of drudgery that has been considered distinctly woman's work, such as scrubbing, washing, and the like, that requires a great deal of physical exertion. In some other countries and ages women did considerable of what is termed drudgery work. Now, in our day and time, there are new opportunities for women. We feel very strongly that the women ought to be given equal opportunities with men. I think Miss O'Reilly will agree with me on that.

Senator PAGE. May the Lord hasten the day when that will come. But it seems to me that there is no uplift in putting a woman into man's work in the field, in the stable, or in the hide house.

Miss NESTOR. A great deal of our work has been taken out of the home and put into the factory and the mills and all that, and men have taken our work. For instance, at one time we did all the baking of our bread. Now nearly all the bakers are men. And the weaving of the cloth—the men have taken some of that. I do not think there have been enough opportunities really opened up for the women. They have not followed all of those trades. Some seem always to think of the women just doing the sewing and the cooking. That seems to be the thought in the minds of so many people when you talk of woman's work. There ought to be a lot of other opportunities open for women.

Senator PAGE. Will not that grow out of vocational education?

Miss NESTOR. That is my hope, Mr. Chairman.

Senator PAGE. I think, Miss Nestor, that while we may now be digressing from the purposes of this discussion, there is a great deal of meat in what you are saying. I think that the proposed bill for vocational education ought to give woman a higher development, and give it to her because she is going to be able, through this bill, to seek new avenues, avenues that are uplifting rather than otherwise.

Miss NESTOR. I hope the commission will recognize that in their report. I should very much like to see that. We know that a great many particular trades have been distinctly women's trades, and the

women are being displaced by men. We know that in the making of straw hats the men are coming in. The men do not like to see us breaking into certain trades, but we are coming into ours.

(Here followed an informal discussion which the reporter was directed not to take.)

Miss MARSHALL. Senator Page just suggested that women were doing the lighter parts of the work. Is it not true that with the opening of the various lines of industry to women which were not formerly open to them women are taking the less well-paid processes in many instances, not having the opportunity to go on to the higher-skilled and better-paid processes? Is not that due to lack of training?

Senator PAGE. Rather than lack of strength?

Miss MARSHALL. In some instances it is obviously lack of strength. But take clothing, for example, which, as Miss Nestor said, used to be considered a woman's trade. Now, in many cases we find the men doing the better-paid work in clothing, do we not? And in the millinery business those who are getting the largest pay are men. I wonder if it has not come about through this enormous division of labor, without the women being trained, not having the preliminary training in their homes or anywhere—our social life does not give it to them, and and therefore they are not having the opportunity to develop as human beings which they should have. I should like to know if you have any opinion on that subject; if you think vocational training would help to give women a better opportunity in industry.

Miss O'REILLY. Yes; I think so. And I think in the places where women have been employed the men go almost always into trades like this hatting trade, straw-hat making; the men go in as underbidders. It has often been said that women went in as underbidders. It is the men who go in as underbidders, because of this strength or energy which they have in speeding up the machines. In a little while they make bigger wages than the women at the same kind of work. Now, in those trades—the clothing trades and tailoring—where the men have gone in and have got the better places, I think they have simply worked the women out.

Miss MARSHALL. Do you think training would help that? Would it help women to take their place in the higher ranks of those industries?

Miss O'REILLY. Yes; the women will take their places, but it has got to be a training which will fit the people to work side by side now. I think the women can go there along with the men in doing the work if they get the chance. Now, there are many reasons why women leave the factories when men go in.

Mr. PROSSER. Miss O'Reilly, you are familiar with the situation in the garment trade in New York, probably more so than almost anybody else. To what extent are the avenues of promotion from one level to another in the garment trade closed there for lack of opportunity on the part of the girl to get the training she needs to make the next step? If a girl in the low-grade undergarments could receive the training that would fit her to shift to the dress and waist department, would there be more avenues of promotion open? How far are the garment trades organized into levels in which the workers are more or less buried?

Miss O'REILLY. The industries as they are conducted to-day cut off the girl from the opportunity to take the next step. The work is so divided and so subdivided through this division of labor, giving a girl just one seam to run or one part of a seam, that after she has done that work for a number of years she is dead mentally.

Mr. PROSSER. Better training in that case would necessarily give that girl the power of promotion, you might say, would be the training that would broaden out her experience in the industry, so that instead of making one piece she would get more of a chance to make all the garments, and through that accomplishment would get the chance to be promoted up the line?

Miss O'REILLY. I think that the movement through which those trades will be aided is largely the trade-unions rather than the effort to make a demand among themselves. Time after time we met in the trades the employer who was not far-sighted enough to see that he himself, by the methods he was employing in his industry, was killing the workers themselves. In making the investigations in the trade school the employers were very willing to tell us what they wanted and what they would like to have in the way of workers and what workers would get promotion. But the very way in which they carried on their work was the thing which killed in the girl all initiative, all desire for promotion—if I am making myself clear. The man himself did not see that the very way he was carrying on his work, of just letting the girl do this one thing or insisting that a girl do one thing, was having that result. Almost every forewoman says, "Do as you are told; don't think."

Just think of anybody carrying on a trade in that way. You are part of a machine. If you ask why—every teacher, of course, wants to hug the child who says, "Why?" because there you have a child that you can teach.

Senator PAGE. You think that that is a discrimination against your sex? You say that work belongs to the females?

Mr. PROSSER. No, Senator; we are talking about the highly organized industry. Men are specialized in it in the same way.

Miss O'REILLY. That is the way industry is carried on, regardless of sex.

Senator PAGE. I was going to say that in the shoe business one man simply finishes the edge of a sole, and he does that same thing day after day.

Mr. PROSSER. The difference between the shoe business and these garment trades is this: In the shoe business there is in the same factory, on the whole, opportunity to get the same return for work that is about on the level. But the garment trade is organized on a series of levels. The worker is taken in on level No. 1, and that worker is specialized, and has little chance to get in on any other level. She never gets the kind of training that would enable her to meet the requirements of other tasks in that level, or the things that give her the power of promotion.

Miss MARSHALL. Miss O'Reilly, how are we ever going to answer the question when it is true that the girls have so little opportunity and that there are these deadening processes—how are we going to answer the question that is asked so frequently, "Then why do girls go into industry? Why don't they go into domestic service and stay in the home, where there are better opportunities?" We have to face that, I think.

Miss O'REILLY. The answer is that as bad as industry is, the home is worse. If industry is as bad as that, and they prefer it to your home, what is the matter with your home? There is a certain liberty; there is time off. You belong to yourself after certain hours, even in the factory. You do not belong to yourself in service. That is the reason.

Mr. LAPP. Suppose the hours in domestic service were limited to eight or nine, or some reasonable time. Do you think domestic service then would be acceptable?

Miss O'REILLY. If they could give that service and then go to their own homes they might, for then it would be like other work. It is only the home which makes their other work possible.

(Here followed an informal discussion which the reporter was directed not to take.)

Senator PAGE. Miss O'Reilly, I want you to know that we all feel very much indebted to you.

Miss O'REILLY. Thank you very much.

Whereupon, at 11.10 o'clock p. m., the commission adjourned to meet on Friday, April 24, 1914, at 10 o'clock a. m.

FRIDAY, APRIL 24, 1914.

SENATE OFFICE BUILDING,
Washington, D. C.

Pursuant to adjournment, the commission met at 10 o'clock a. m.

Present: Senator Page, Representative Hughes, Representative Fess, Mr. Lapp, Miss Marshall, Miss Nestor, Mr. Prosser, and Mr. Winslow.

STATEMENT OF DR. A. C. TRUE, PRESIDENT OF THE AMERICAN ASSOCIATION OF AGRICULTURAL COLLEGES AND EXPERIMENT STATIONS.

Senator PAGE (presiding). In what capacity are you appearing before us this morning, Dr. True?

Dr. TRUE. Mr. Chairman, it should be understood that I am here this morning representing the Association of American Agricultural Colleges and Experiment Stations. What I shall attempt to say will relate entirely to their view of this matter, as I understand it. The Department of Agriculture, therefore, should not be held responsible in any way for what I shall say this morning.

The Association of American Agricultural Colleges and Experiment Stations, comprising the State institutions endowed by the Federal Government, through the land-grant act of 1862 and several supplementary acts, naturally takes a broad and deep interest in all matters relating to vocational education, since these institutions are largely engaged in education relating directly to agriculture, home economics, engineering, and various industries. The position of this association regarding general and vocational education in this country, stated in very brief and general terms, is as follows:

The United States should have a comprehensive public system of education. This should afford equal opportunities, as far as possi-

ble, to every person living under our flag to obtain an education best suited to enable him to make the most of himself as a human being, a citizen, and a member of a great social and industrial democracy. It should, therefore, include all branches of elementary, secondary, and higher education.

What may be called the industrial element of education should be an essential feature of this system in all its grades from the elementary school to the university. Broadly speaking, education relating to agriculture, home economics, and the industries generally should be included in this system, for its cultural value and for its usefulness as a direct preparation for the practice of a vocation.

The period of general education, including the industrial element, should be as prolonged as the capabilities and economic status of the individual will permit, but this should be combined with or followed by strictly vocational education at proper stages of the individual's physical and mental development.

The organization and control of public education in the United States is a function of the State and not of the Federal Government. In order to equalize educational opportunities, the wealth of the Nation as well as of the State should, however, be used to supplement the contributions of the local communities for educational purposes.

Each State should have a unified system of education and such special institutions as may be established for particular purposes should take into account their proper relation to the general system. They should also recognize that whatever occupation the American citizen chooses to engage in, he does not expect that that will fix his own status or that of his children in any permanent way as regards his or their relations to the body politic. All forms of public education, including vocational education, should therefore be constituted in such a way as will promote the free movement of individuals within the community and encourage broad and thorough training along the line of the individual's capacities and inclinations.

The Federal contributions to education should take the form of grants to the States to be used for the development of their educational systems according to their varied methods. These grants may well be for specific purposes, but should always be on such conditions as to strengthen the control of the State over its own educational system.

It has become the settled policy of the Federal Government to make contributions to the States in this way for education, including research, teaching, and extension work, with special reference to agriculture, home economics, and the various industries, in and through colleges and universities. These contributions have been enlarged from time to time and the purposes for which they have been made have been broadened. But they do not yet include all the objects for which it is desirable that such contributions shall be made and it is therefore to be expected that they will be still further enlarged in the future.

The association favors the extension of the policy of the Federal aid to education to include grants of money to the States for secondary education on much the same general terms as in the case of those which have been made for higher education, but taking into account the appropriate limits of the work of secondary schools.

It is recognized that there exists at present both within and without the association much variety of opinion as to the best form in which strictly vocational education should be organized. This is especially true with reference to the necessity for separate vocational schools, and, if these are found desirable, the regional or other basis on which they should be organized. It seems probable that many experimental efforts will be required before anything like a standard for the form and conditions of a system of vocational education suited to the broad and varied requirements of the United States can be established.

Mr. PROSSER. Is it not also very likely that no standard scheme could be set up which would meet the various conditions of all the States; for instance, in agriculture?

Dr. TRUE. At present?

Mr. PROSSER. Will it ever be possible to set up a uniform scheme since differences in conditions will remain permanent?

Dr. TRUE. Oh, I think that is true, yes. Taking into account the present conditions in and around secondary education in the United States, the association believes that Federal legislation granting funds to the States for this purpose may be well confined in their use to instruction directly relating to agriculture, home economics, trades, and other industries.

These grants should be made in such a way that they will be expended by duly constituted State authorities, with only such supervision by the Federal Government as will insure their expenditure within the terms of the law. Those terms should be such as will permit each State freely to work out its own system of industrial education.

All Federal grants made to the States for scientific researches and practical experiments should be given to colleges and universities and not to secondary schools. Even if in some instances it should be found expedient to carry on a certain amount of experimental work with Federal funds at secondary schools properly equipped for this purpose, the determination of the character and extent of this work should be left to the experts connected with the research divisions of the colleges. This need not interfere with the carrying on at secondary schools on their own initiative of such trials and demonstrations as may be naturally connected with their work of instruction.

Mr. PROSSER. What would you think of leaving to the State authorities the State board of control, for instance, the decision with regard to that point?

Dr. TRUE. An experimental work?

Mr. PROSSER. No; as to the source from which they shall get their expert service for experiments in secondary school education in agriculture. There would be two ways to get this service. One would be to provide in the Federal statute that the State board of control must set up a certain scheme of supervision on the part of the agricultural and mechanical colleges over the experimental work in hand, through the experts of the agricultural and mechanical colleges; and the other would be to draw the Federal statute in such general terms that decision on this point would be left entirely in the hands of the State in the exercise of its autonomy. I can not see

why the Federal Government should insist or inflict upon the States any particular plan. While I am quite confident many of the States themselves would rush to the agricultural and mechanical colleges for just such help, I do not see why the Federal statute should not leave the matter to the vote or wish of the sovereign people as expressed through the legislature of a State or through its State board of control for education rather than to control it from Washington. I am heartily in favor of the agricultural and mechanical colleges having a large part in affording expert service for giving advice or assistance and for participating in supervision, but I would like to know why this could not be left to the States.

Dr. TRUE. I see no objection to that. My point here is simply that if the Federal Government is to give money to secondary schools for experimental purposes, it would be best to give that as the Government has been giving it to the——

Mr. PROSSER (interrupting). You are speaking about grants of money from the Government for experimental purposes?

Dr. TRUE. Yes.

Mr. PROSSER. You are not talking about the contact with the schools themselves, so far as administration of the schools is concerned?

Dr. TRUE. No; not at all.

Mr. PROSSER. Your idea is you would favor the National Government giving some money for experimental purposes in agricultural, home economics, and industrial education, and if such money was given you think the experiments should be committed to the general oversight of the agricultural and mechanical college of the particular State?

Dr. TRUE. Yes; it ought to be given to those institutions and they ought to manage the experimental efforts.

Mr. PROSSER. You are advocating now another grant to the agricultural and mechanical colleges for experimental purposes?

Dr. TRUE. No; I am not advocating it. I am simply saying that whenever the Federal Government makes appropriations for experimental purposes, those appropriations should go to the colleges and not to the secondary schools.

Mr. PROSSER. It would depend upon the nature of the experiments, would it not? If it were an experiment in a type of secondary school, the money ought to go to the State board of control for use; but if it were a series of experiments for gathering technical or practical knowledge for use in the instruction grade by agricultural schools, the money for its benefit certainly ought to go to the agricultural and mechanical colleges.

Would you agree to this—that the money for experiments in the actual work of the agricultural schools themselves, as to methods of teaching, courses of study, or administrative devices, should go directly to the hands of the State board of control, which is directly in control of the schools themselves; but, on the other hand, money for experiments to get together facts, such as the bureaus at Washington might gather for use in vocational education, should go directly to the agricultural and mechanical colleges of the States?

Dr. TRUE. Yes; I have no objection to that.

Senator PAGE. Dr. True, if the so-called Smith-Lever bill passes, as it probably will, do not you think the contributions to the agri-

cultural and mechanical colleges for experimental work will be fairly provided without additional grants from the Federal Government?

Dr. TRUE. It should be understood that the Smith-Lever bill does not provide for any experimental work. It is all demonstration and other forms of extension work.

Senator PAGE. But it acts upon the supposition that this experimental work has already been done, and perhaps it will continue to be done, by the State agricultural and mechanical colleges under their present appropriations?

Dr. TRUE. Yes, sir.

Senator PAGE. The small appropriation that we are likely to get for this work, it seems to me, ought not to be divided any more than is absolutely necessary; and the very liberal appropriations which have been made to the agricultural and mechanical colleges, if the Smith-Lever bill passes, ought, it seems to me, to be sufficient for the present. I understand the Smith-Lever bill is simply to take this accumulated research work, or the results of the accumulated research work, to the farmer; but it is along this line of work in part. We expect the vocational education bill will articulate with the work of the Smith-Lever bill. Is that your understanding?

Dr. TRUE. It will be, aside from this; it will be different.

Senator PAGE. I think they should cooperate; I think they will cooperate.

Dr. TRUE. I think the schools should cooperate with the extension agents, and undoubtedly they will. But in this last statement of mine I was thinking specifically of the proposition to establish branch experiment stations, which has been somewhat discussed.

Senator PAGE. But, Dr. True, that branch experiment work was suggested years ago by the Assistant Secretary of Agriculture, Mr. Hayes; more than a year ago or more than two years ago that was, at his suggestion and the suggestion of Mr. Prosser and others, practically abandoned, and there has been nothing the last two years, so far as I now recall, that looks to branch experiment work.

Mr. PROSSER. That is an entirely different matter you are bringing up now.

Dr. TRUE. I understand that, but I want to make the position of the association clear on that point.

Mr. HUGHES. As I understand it, our agricultural colleges have a great deal of scientific information locked up in their vaults which is not benefiting the man on the farm, by reason of the fact that it can not reach him. As I understand the Smith-Lever bill, it furnishes a key to that vault. It unlocks that vault and takes out the scientific information, the result of great research and study, and carries it to the man behind the plow on the farm, the adult farmer, and there teaches him by demonstration, the only plan on earth by which you can reach the man behind the plow. Is that your idea?

Dr. TRUE. Your conclusion is right. I should hardly agree with you that these institutions have any large amount of material locked away. That is not the situation as I look at it.

Mr. HUGHES. They have this information, and it can be obtained and given, as a rule, to those who go to these agricultural colleges for higher agricultural education; but there is a great deal of information there, theoretical information and research work, that can be

carried directly to the man behind the plow, the man with very little education.

Dr. TRUE. There is no doubt about that.

Mr. HUGHES. The only way to reach him is to take that information and let him know that science can be reduced to practice.

Dr. TRUE. Yes, sir; and that is the object of the Smith-Lever bill. When you add to that contributions of the States, which will come under that general provision, we will have a very large and strong agency for the distribution of information in a practical way. But that is a distinct thing. It is extension work and not school work.

Mr. PROSSER. Mr. Chairman, just a word for the purpose of the record with regard to the statement concerning experiment stations. The Page bill provided grants for experiment stations located close to district agricultural high schools; practically on the same tract of ground. But those experiment stations were to be very largely in the nature of demonstration tracts, supplementing the activities of the district agricultural high schools. Dr. True is talking about a possible use of experiment stations for the purpose of supplementing the State board of control, and aiding the State board of control with certain discoveries which could be used in the schools.

I would like to ask Dr. True how this work would differ from the kind of work that experiment stations usually do. If it be admitted that the State board of control and not the agricultural and mechanical college should control the agricultural schools receiving national grants, and that they should have charge of all things that have to do with methods of instruction and courses of study and experiments in teaching, then it seems to me the experimental stations of the agricultural and mechanical colleges for the purpose of helping the secondary schools would be no different from the kind of experimental work those stations do in order to get information for use by the farmers of that State.

(At this point Senator Page retired from the room, Representative Hughes taking the chair.)

Representative HUGHES (presiding). You may proceed, Dr. True.

Dr. TRUE. I may say, referring to Mr. Prosser's statement, that when I said the boards of control of these secondary schools might well determine with reference to the carrying on of experiments, I thought he referred to experiments in education. I should distinguish that very clearly from what is ordinarily included in experiment-station work. The agricultural experiment stations are organized as scientific institutions to discover new facts and principles relating directly to agricultural practice, and it is that kind of agency which we think ought to be kept separate from these secondary schools. That is partly because in order to carry on good experimental work in those lines you have highly trained experts to plan and supervise the work, and it must be carried out under strict control of conditions and under general conditions which are not likely to be found generally at the secondary schools.

Mr. PROSSER. Would you oppose an experiment station at the high school, at a secondary school, such as was provided in one of the drafts of the Page bill?

Dr. TRUE. Yes; as a general rule.

Mr. PROSSER. That means that you believe there is a field of experiment in education proper which the agricultural and mechanical college of the State should be specially delegated to give, to carry on?

Dr. TRUE. The college might carry that on if it was properly organized to do so, but I could see no objection to that kind of work being organized with special reference to these secondary schools under their boards of control.

Mr. PROSSER. Do you believe that all experimental work in the teaching of agriculture should be done at the agricultural and mechanical colleges and not by the normal schools?

Dr. TRUE. The normal schools, generally speaking, are secondary schools in the sense that they are organized to prepare teachers for the elementary schools. There are a few normal schools or normal colleges which are of a higher grade. My view of that matter is that the higher normal teaching should be done in immediate connection with the colleges and universities.

Mr. PROSSER. As a matter of fact, in most of the normal schools of this country to-day courses are being established for the preparation of teachers to give instruction in elementary agriculture, elementary home economics, and elementary manual training. This preparation is usually for service in the elementary schools.

Dr. TRUE. Yes.

Mr. PROSSER. In many of the States, however, where the system still obtains of employing as high-school teachers those not equipped with a college diploma, we find normal-school graduates serving in the secondary schools. I should imagine that most of the high-school teaching in rural places in this country to-day is being done by normal-school graduates and not by college graduates at all.

Dr. TRUE. I have no doubt that is true, but I am speaking now of what should be, rather than what is.

Mr. PROSSER. I am trying to get at your idea as to the proper division of the task of training teachers of agriculture as between the normal school and the agricultural and mechanical college. State boards of control are going to have to face that question in each State, if the Government makes grants for the training of teachers. This commission in proposing a bill providing such grants must face it. This is the question at issue: What is the place and relationship of the normal schools to the agricultural and mechanical colleges of the State and the State universities with regard to vocational education? We can not go into the question very far at this time, but if the normal schools are preparing teachers to give instruction in the upper grades of rural schools in agriculture and home economics and manual training, would it be proper for them to carry on instruction in teaching in these subjects so far as they have to do with elementary schools?

Dr. TRUE. I see no objection to that.

Mr. PROSSER. But you believe, so far as all experiments in secondary instruction in these subjects are concerned, the experiments should be carried on by the agricultural and mechanical colleges and not by the normal schools?

Dr. TRUE. That is my general position; yes.

Mr. PROSSER. Do you believe, Dr. True, that money granted to the State for such experiments should be granted directly to the agricultural and mechanical colleges of the State, or should it be granted to the State board of control to be used under the general direction of the State board of control in these agricultural and mechanical colleges? They are two vastly different things. One sets up an

entirely independent experimental force or body. The other puts all the money in the hands of the State board of control, which is finally responsible for the success of the work in the State, and that board of State control, under conditions which it itself sets up, deals with the agricultural and mechanical colleges in carrying on these experiments and in teaching.

Dr. TRUE. That is a question I have not thought very much about; but as I said in the beginning, I do not think there would be any objection to this board of control having the money for experiments in education.

This, however, should be said in that connection: It seems very desirable that in some way the colleges and universities of the country should be definitely brought into the plan of education within the States, so they will have an organic relation with these boards of control.

Mr. PROSSER. To what extent is there danger that the colleges of all kinds, including the agricultural and mechanical colleges, will, to the extent they have any views in the matter, insist upon such a course of study in these vocational classes and schools as would lay emphasis on preparation for college entrance and not upon preparation for vocation?

Dr. TRUE. Undoubtedly there is some difficulty at that point, because of the traditions of education; but I feel sure that the point of view of the colleges and universities of this country is constantly becoming more liberal along those lines. The agricultural colleges are institutions for higher education and research in agriculture. They are to educate the leaders in agricultural progress in the United States—the teachers, the investigators, Government officials, managers of large agricultural enterprises. In my judgment that should be their primary and principal purpose.

Representative FESS. How do you account, Dr. True, for the statement of Mr. Winslow a moment ago that the agricultural college at Amherst sends out so many people who go into the professions rather than back to the farm?

Dr. TRUE. I account for that in this way, that the agricultural college at Amherst has given instruction relating largely to the various sciences necessarily, and in years past there has not been a sufficient demand for graduates of that institution to enter pursuits directly relating to agriculture, and they have therefore gone into other things. But that is not the general situation in this country at present.

Representative FESS. That is what I want to get at. I do not know; I have not the figures, but I would like to know, for example, how many of the agriculture students in the Ohio State University, in the agricultural department, leave the farm for the college and then do not return to the farm. My opinion is that the great mass of them do return to the farm, unless they go out of the agricultural college after they get there into the university proper, in the other departments. The statement of Mr. Winslow is a striking one to me.

Mr. WINSLOW. This statement was made at the Algonquin Club in 1907 by one of the board of trustees of the agricultural colleges. That is not only true of agricultural colleges in Massachusetts, but if you will take the reports of the Lowell Textile School, an institution that was organized to make managers, mill superintendents, etc.,

you will find that the graduates of the Lowell Textile School are not superintendents of factories. They are going outside, absolutely outside of the scope of the efforts that the school was organized to produce. I do not believe we can set up a line of demarkation with the hope that it can not be overreached. I do not think we can set up a line beyond which they will not try to climb. The moment you give the boys trade education, they want to go to a technical school. The moment you give high school graduates a higher education, as is given in the Lowell Textile School, they want to go higher. That is true of the farm boy, or the farmer's son who goes to Amherst Agricultural College. He wants to go higher. I do not know that I want to set up any barriers for them which they can not climb, but I am apprehensive of what is going to happen.

Representative FESS. If this statement of Mr. Winslow is a general one, I think it is really very serious.

(Here ensued further discussion, which the reporter was directed to not record.)

Dr. TRUE. Mr. Chairman, I think I should be permitted to conclude my statement; otherwise you are going to place me in a false light if you keep cutting me off in this way.

Representative HUGHES. I think you are right, Dr. True. You may proceed with your statement.

Dr. TRUE. I have stated that the primary and principal purpose of the colleges of agriculture is to train leaders in agricultural progress, but at the present time, while they are attempting to do that, they are also giving instructions to thousands of students who do not pursue their long courses but their shorter courses of instruction and who go out to their work in other lines than that of agriculture. The situation, generally speaking, in the United States with reference to these graduates is that we are finding great difficulty in holding enough of them away from the agriculture to fill positions which ought to be filled in the Government and State service and in the schools and experiment stations of the country. The constant trend in the agricultural colleges in recent years has been to give education which is more directly related to agricultural progress and agricultural practice. The colleges are now gathering in boys not only from the farm but also from the city. One of the problems which they are especially studying at the present time is how to give or secure for those boys who come from the towns a sufficient amount of agricultural practice, so they can make the most of the theoretical instruction which they also receive at the colleges. The colleges of agriculture are not opposed to strictly vocational instruction in agriculture, in secondary, or other schools, separate from themselves. They have come in a number of instances, taking up the work of secondary education within their own organization and have organized secondary schools of agriculture; but they are doing that simply because of the demand for such education and the fact that there were not in existence other institutions which could fulfill this mission. As the number of students increases in our agricultural colleges they will be more and more desirous of being rid of secondary instruction and having that organized in schools outside of themselves.

Mr. PROSSER. Is it not a fact that where these secondary agricultural schools have been established under the auspices of an agricul-

tural and mechanical college, the whole course has been planned on the theory that the students were going to college?

Dr. TRUE. No, that is not altogether the fact.

Mr. PROSSER. All that I know are in that shape.

Dr. TRUE. Take the Minnesota school, for example, which is the largest one. Their course of instruction is planned with definite reference to boys going back to the farm.

Mr. PROSSER. That is true, but the work is also planned so that the diploma shall admit into the college.

Dr. TRUE. But in order to get into the college, as I understand it, the student must take at least a year's instruction after he completes his course in the secondary agricultural school.

Mr. PROSSER. I did not know that. That I heartily commend, and I think such a plan is the only satisfactory solution.

Representative FESS. Most agricultural colleges require for entrance a diploma from a first-grade high school, do they not—that is, the secondary school?

Dr. TRUE. Yes, that is generally the rule.

Mr. H. N. BREWSTER. Mr. Chairman, may I interrupt for just a sentence?

Mr. HUGHES. Yes; I presume so.

Mr. BREWSTER. I do not think there is an agricultural college in America that requires the completion of the secondary course to enter its doors, to give practical work; but they distinguish sharply between the short courses and the long course. Minnesota will take boys and men that can not write a sentence accurately, and put them in their classes and give them instruction in dairying and in engineering. I have been there and seen it done. I was principal of that school. Wisconsin will do the same thing, and I believe every agricultural college in the United States will do it. They distinguish sharply between the short course and the full course.

Dr. TRUE. I was thinking of course of the regular college course.

Mr. PROSSER. That is what I meant also.

Representative FESS. They give nothing more than a certificate of that sort of thing.

Dr. TRUE. We must all the time remember, in discussing these questions, that thus far the United States has not had any adequate system of industrial education, and the institutions that we have are, most of them, nondescript. What we are trying to do here, I judge, is to discuss the way in which a system of industrial education should be worked out, and in doing that I think we ought to make a clear distinction—that is the point I was dwelling on particularly—between the institutions for higher education along these lines and the institutions for secondary education or elementary education.

Representative FESS. Dr. True, have you the figures that will inform the commission what is the general rule in this respect? When a student goes to an agricultural college, does he return, after he has finished, to the farm, or does he go into some profession?

Dr. TRUE. I have not the figures here this morning, but there have been such figures prepared.

Representative FESS. What is your judgment in the matter?

Dr. TRUE. My judgment is now that the large number of the students from the agricultural colleges go back to the farm, and that is

more and more so especially in those States where the economic conditions are such that farming is a profitable occupation.

Representative FESS. Can you give the reasons why it is becoming more and more so? Is it because the farm offers a better opportunity than it used to, or is it because the agricultural college is coming more to serve the people than it used to, or both?

Dr. TRUE. I think both things enter into the account; but it seems to me that the economic conditions are the most important. As long as agriculture was a depressed industry, there was naturally very little desire on the part of the farmers or children to prepare for such work. But now the conditions are different, especially in our great agricultural States. Such things as the rise in value of agricultural lands have had a strong influence in bringing children into the agricultural schools and colleges and sending them back to the farm, because the farmers themselves in those regions realize that they have to use better methods and work more carefully on high-priced land than they did on the low-priced land, as it was years ago.

Representative FESS. The invention of machinery that makes the farming less drudgery would help, too, I should think.

Dr. TRUE. Yes; and the improvement of rural conditions through such things as the telephone and the free delivery of mail.

Representative FESS. Making the country really a desirable place above the city, in many respects, in which to live?

Dr. TRUE. Oh, yes. All of those causes have a certain effect.

Mr. WINSLOW. Dr. True, have there been prepared statistics concerning the graduates of agricultural colleges, and where they go after graduating?

Dr. TRUE. To a certain extent that has been done.

Mr. WINSLOW. Can you furnish that to us?

Dr. TRUE. I have no doubt I can furnish a certain amount of such information.

Mr. WINSLOW. Will you do that?

Dr. TRUE. Yes.

Mr. WINSLOW. Thank you.

Dr. TRUE. Aside from this question which you have just been discussing, which is a very complex question, if you should take the graduates and students of the agricultural colleges of the past 25 years, who have been the investigators in our experiment stations and in the Department of Agriculture, who have been the teachers of agriculture in the colleges and secondary schools, who have engaged in large pursuits of one sort or another that have had intimate relation to agricultural progress, you would find left a comparatively small body of men who have been the leaders of our agricultural progress in this country.

It must also be remembered that when we speak of agricultural colleges generally, we are thinking of what are sometimes called agricultural and mechanical colleges, sometimes the land-grant colleges, and those institutions are of course doing very much more than training students along agricultural lines. They have broad courses of study which include almost everything that might be taught in the State universities in many cases.

Representative FESS. Should that be?

Dr. TRUE. I do not know that that should be in an ideal sense. But it must be borne in mind that the Federal legislation in reference

to these institutions did not plan to establish agricultural colleges in a strict sense of that word. The money is given for a large variety of educational purposes, and under the general influences which have existed in the States the wonder is that as much has been done along agricultural lines as has been, because there has been so much pressure for the use of funds for other forms of education. The agricultural education is now becoming popular, and there is not much difficulty in getting funds to carry it on, but that is a very recent thing.

Representative FESS. Was not the original law to confine itself to mechanical and agricultural education?

Dr. TRUE. By no means.

Representative FESS. We made a tremendous fight in Ohio on the assumption that it was. When the State university, which was really established by the land-grant stimulus, enlarged and became a great university, there was a tremendous fight that if it wanted to do that it was going beyond what the Government meant when it gave the funds.

Dr. TRUE. Neither the original land-grant act nor the Morrill Act of 1890 confines instruction, under the terms of those acts, to agriculture.

Representative FESS. So under this land-grant act the State university carried on a school of medicine and a school of law?

Dr. TRUE. So far as the terms of that act are concerned, they could teach any subject.

Representative FESS. We are doing it, but there has been a great deal of question about it.

Mr. WINSLOW. But the land-grant act gave authority and money with that authority to teach agriculture and the mechanical arts. It is specific in the law that the money is to be given to teach agriculture and the mechanical arts. It is divided in Massachusetts between Amherst and the Massachusetts Institute of Technology. They divide that fund. A private institution gets half of the fund in Massachusetts.

Representative FESS. And Amherst is doing more in agriculture.

Dr. TRUE. Massachusetts is the only State that has established a separate agriculture college under that legislation. All the other States established institutions with much broader scope.

Representative FESS. Yes; we did.

Dr. TRUE. And in over 20 States the State university is the outgrowth of the land-grant act of 1862.

Representative FESS. Is Ann Arbor the outgrowth of this same act?

Dr. TRUE. No.

Mr. WINSLOW. There is an agricultural college there.

Dr. TRUE. The more you go into the situation as regards these institutions the more you will see it is a complex question. Hardly any statement you can make about that is exactly true as applied to them generally.

Having these agricultural colleges properly constituted as the institutions for higher education in agriculture, we should have secondary schools in which agriculture should be taught, and these be of two general classes: First, general secondary schools in which agriculture constitutes one of the departments of instruction; second, special agricultural schools. In both of these classes of schools there

should be theoretical instruction of agriculture and special instruction or vocational instruction more directly.

The association which I am representing here this morning favors the creation of secondary schools of agriculture and the institution in connection with those schools of strictly vocational instruction. The association has gone on record on this point, and the following paper and resolutions contained the matter relating to secondary education in agriculture, home economics, the trades and industries on which the association has taken definite action in recent years:

The paper on secondary education in agriculture in the United States was presented at the convention of the association in 1909. As shown by its form, it was intended simply as an expression of the opinions of the author, but after its reading the association unexpectedly and spontaneously adopted the paper as containing an embodiment of its views on this subject.

This was presented to the association by myself, and I quote from the proceedings of the twenty-third annual convention of the association, pages 17–19, from a paper entitled "Secondary education in agriculture in the United States," as follows:

"I propose first to outline briefly the present status of secondary education in agriculture in the United States.

"Twelve years ago, when Secretary Wilson came to the United States Department of Agriculture, there were but 10 agricultural high schools in the country, and the teaching of agriculture in normal schools or in public elementary schools had merely begun. To-day there are 60 agricultural high schools or, definitely, secondary agricultural courses in colleges, 346 public high schools teaching agriculture, and 119 State or county normal schools and 16 agricultural colleges training young men and women to teach agriculture. In addition to these there are a number of private institutions giving secondary instruction in agriculture and 16 institutions offering correspondence courses or reading courses which are practically of secondary grade, making in all about 500 institutions giving secondary instruction in agriculture.

"For the purpose of this discussion these institutions may be classified as follows:

"(1) The agricultural colleges where the instruction is given through definitely organized agricultural high schools, as in Minnesota, or through short or special courses of different kinds. The agricultural colleges as a body are giving much secondary instruction in agriculture. In some cases this is definitely organized as such, and in other cases it is given under a variety of names. (2) Agricultural high schools in congressional or other large districts, as in Minnesota and Alabama. (3) County agricultural high schools, as in Michigan and Wisconsin. (4) State or county normal schools. (5) Ordinary high schools, either in cities, townships, or counties. (6) Private colleges and schools. (7) Correspondence schools.

"In a general way, though very inadequately, I have stated the present scope of instruction in agriculture in secondary schools in this country. It must be said that the movement is still in an experimental stage, and the most encouraging thing about it now is that we have a sufficient number of experiments in this kind of education in progress so that we shall hope to have some pretty definite results

worked out from experience within a comparatively short time. I think we shall all agree that it is now too early to say what the American system of secondary education in agriculture will ultimately be. From the study which I have been able to make of this subject, I am inclined to sum up the matter from a somewhat ideal point of view in the following statement:

"(1) Agriculture, including horticulture and forestry (and it is well to bear in mind that where I use the term 'agriculture' I would use it in the ordinary sense to include the whole subject) should be a regular part of public secondary education; (2) the unity of the educational system should be maintained, but there should be sufficient elasticity of curricula to meet the various needs of the people; (3) the standard curriculum of secondary schools having agricultural courses should conform in a general way to that adopted for the general school system of the State; (4) the standard argicultural courses, whether in the ordinary high schools or in special schools, should not be narrowly vocational, but should aim to fit the pupils for life as progressive, broad-minded, and intelligent men and women, as well as good farmers and horticulturists; (5) the standard courses in agricultural secondary schools should be so organized as to form a natural and proper preparation for entrance to agricultural colleges."

Representative FESS. Would you amplify No. 4 just a little bit, just to show what you mean?

Dr. TRUE. If you will wait a moment and permit me to conclude reading this extract, I think you will find the points are covered.

Representative FESS. That is one of the points of difficulty, whether you are attempting to make better farmers or better men on the farm. The danger is that we lose sight of one in favor of the other. Do you treat that in your statement?

Dr. TRUE. To a brief extent, but I will be glad to enlarge upon that if you desire when I conclude my statement [reading]. "The conditions of entrance requirements to colleges are, in my judgment, far from satisfactory. It is not likely that we have reached the ultimate plan for the preparation of the great mass of students who in the future will desire college courses. It seems certain that when the so-called vocational subjects are properly organized and taught in the secondary schools they will be generally recognized as having much pedagogical value. This is especially true of agriculture, which is a subject embracing much of general human interest. Even under present conditions the agricultural colleges would do well to give credit in their entrance requirements for agricultural subjects properly taught in secondary schools.

"The agricultural college should have a definite legal relation to our public-school system and especially to the courses or schools of agriculture of secondary and elementary grades. By this I mean that the State legislature should take definite action, recognizing that agricultural colleges have a definite function to aid in the organization of a proper system of secondary instruction in agriculture, and help the secondary schools in that work.

"One difficulty now in the progress of this movement is that in quite a number of States the legislation is such that the agricultural colleges, if they take any part in it, have to 'butt in.' The whole matter of secondary education is in many States intrusted to the State department of education, as far as the State deals with the

matter. I think that ought to be remedied. It may be said that that is only part of a wider thing. I do not believe that we have yet in this country considered definitely enough the proper relation of our universities and colleges to the more elementary education. These higher institutions in many States yet stand too far apart from our general system of education. It is very desirable, it seems to me, that they should be recognized by statute everywhere as an essential part of our public system of education. And while that general movement is proceeding the friends of agricultural education should urge that the agricultural colleges should have a definite part in the organization and maintenance of systems of agricultural education in public schools.

"Agricultural colleges will have to do secondary work to a considerable extent for some time to come. We can not, in my judgment, jump immediately in all our agricultural colleges to a State of things where all the secondary work is excluded. This should, however, be definitely organized as separate and distinct from the college work. The aim should be to have all secondary work relegated to secondary schools, entirely separate from the colleges, when such schools are efficiently organized with reference to instruction in agriculture.

"Agriculture should be generally introduced into the ordinary high schools. There should also be a limited number of special agricultural high schools in the different States. These should be so limited in number that they will be organized with reference to large districts. I do not believe it is either necessary or desirable to organize such schools with the county as a unit. Experience so far points to the fact that the county is too small a unit for the proper equipment and maintenance of a thoroughgoing agricultural high school. These special schools should have a relatively large agricultural faculty and an adequate equipment, so that the students going to them will not only have offered to them a standard course of high school or secondary grade, but will also have opportunity to specialize to a certain extent along different agricultural lines. I believe that such schools are needed, because they will in a way set the pace for secondary education in agriculture, and will help rather than hinder the general introduction of agriculture into the ordinary high school."

Representative FESS. Take Ohio, Dr. True. How many such schools should we have there?

Dr. TRUE. The State of Ohio thus far has taken the position that agriculture, where taught in secondary schools, should be taught in ordinary high schools.

Representative FESS. How many should there be in a State of 40,000 square miles, all or most of which is agricultural? You say the county is too small a unit. Would you make it the congressional district?

Dr. TRUE. In a general way that might be done, although I do not like that as a unit.

Representative FESS. That is based upon population.

Dr. TRUE. In a general way my idea about that is that we should go rather slow in the organization of these special schools, establishing them in small numbers to begin with, and then as they become established increase the number to meet the needs of the students as the numbers grow.

Representative HUGHES. Dr. True, we have in Georgia an agricultural school in each congressional district, and we have an agricultural college located at the university at Athens.

Representative FESS. How many agricultural schools have you all over the State?

Representative HUGHES. Ten. We will have 12.

Representative FESS. Do you change your congressional districts from time to time?

Representative HUGHES. Very seldom. We had to do it in redistricting our State recently.

Dr. TRUE. It must be remembered, when contrasting these two conditions, that in the Southern States the high-school system generally is not so well established and organized as in many of the other States. Then the relation of the agricultural population to the population engaged in other pursuits has to be taken into account, so it is a complex matter.

Continuing my reading:

"Besides serving more general purposes, they will attract a good many of the more mature students who are not ready or financially able to go to college, but desire to go somewhere to get some definite instruction in agriculture, and who are really too old to feel comfortable in the ordinary high school. These schools will also aid in the preparation of teachers and school officers for the rural schools, so that in a way those special agricultural schools will more fully meet the need which is now being met to a limited extent by the special and short courses in the agricultural colleges.

"As I said, I believe the standard courses in these special agricultural schools should not be narrowly vocational, but should conform in a general way to the general standard for the high-school system in the States, and they should be organized so as to connect them definitely with the general educational system of the State. To do this it will probably be found necessary in the case of schools that have shortened the school year to 24 weeks of six days each instead of 36 weeks of five days each, to add another year to the standard course, making it five years instead of four. But it would be desirable that besides the standard courses, which would prepare the students for college or for life, as the case might be, such schools should have shorter courses more purely vocational."

To cover the point made by Mr. Fess, if you desire to have me go on a little further I might say that my view of the matter is that in all these secondary schools much more attention should be given than has been thus far to the establishment of strictly vocational courses, so that there may be a good opportunity in those schools for students who desire to complete their education to get strictly vocational teaching which will prepare them for work on the farm or in other industries, if other instruction is connected with such schools. But I do not believe that those schools should be so organized that if the students desire to go on further they shall practically be deprived of the opportunity. In other words, I am not in agreement with what may be called the European system of vocational education, which is so organized as to practically bar the student in the more strictly vocational schools from going on to the higher universities. Then we must bear in mind as regards agriculture—about which I know most—and also so far as I understand the matter of the other indus-

tries, that we must not shut out of our secondary schools, organized especially with reference to vocational instruction, the teaching of the theory of the subject, especially in agriculture, which should always be a large factor in a secondary school.

Mr. PROSSER. Should not the teaching in the secondary schools give applied theory and not abstract theory?

Dr. TRUE. This may be said to be true, that in American secondary education generally we have gone altogether too much into what you would term abstract instruction. The whole system of scientific instruction in the secondary schools is now undergoing an evolution.

Mr. PROSSER. Has it not been due to insistence by the colleges upon certain entrance requirements which made it absolutely necessary for secondary schools to give abstract training?

Dr. TRUE. Certainly, because the whole educational system has been along that line; but we are now finding out that the way to teach the sciences is to begin with the concrete things, and then to develop the subject out of what the student learns and knows about the things with which he actually has to do. That, of course, is a large educational problem at the present time.

To conclude this matter very briefly, I would like to put on record this further statement:

At the convention of the association in 1911 there was a prolonged discussion on the question of Federal legislation regarding secondary schools, at the end of which the association voted that "it would favor Federal aid for public schools of secondary grade, providing secondary education in agriculture, home economics, the trades and industries, including manual training, and for the education and professional training of teachers for these schools in the several States, as may be determined by the legislature."—Proceedings of 25th annual convention, page 119.

In 1912 the association reaffirmed its action in this matter by adopting the following resolution:

"*Resolved*, That this association reaffirms its declaration favoring 'Federal aid for public schools of secondary grade, providing secondary education in agriculture, home economics, the trades and industries, including manual training, and for the education and professional training of teachers for these schools in the several States, as may be determined by the legislature.'"—Proceedings of 26th annual convention, page 127.

Mr. PROSSER. May I ask Dr. True one question? Suppose this commission should determine to give some money for agricultural education, to be spent by the States, and the great question before us was how that money might be made to yield the best results for agriculture. Two possible methods suggest themselves. One would be to give the money to the States to use in employing supervisors of agriculture, who would go about in the elementary and secondary schools of their district where agriculture was being taught and supervise that instruction and train teachers in the service to give the work. Another method would be to have the State board of control distribute the money to the agricultural schools themselves, giving some money to every one of them according to the amounts which those schools spent. In your opinion, which of those two methods would be the most advisable as an entering wedge of national grants by the Federal Government at the present time?

Dr. TRUE. If I had a choice I should be inclined to choose the former.
Mr. PROSSER. Give it to supervision?
Dr. TRUE. Yes.
Mr. PROSSER. That is all I have to ask, Mr. Chairman.

Representative HUGHES [presiding]. The hour of meeting of the House has arrived and we must take a recess. We are certainly very much obliged to you, Dr. True, for appearing before us this morning. The commission will take a recess until 2 o'clock this afternoon.

(Thereupon, at 12 o'clock noon, the commission took a recess until 2 o'clock p. m.)

AFTERNOON SESSION.

At the expiration of the recess the commission reassembled.

Mr. WINSLOW (presiding). The commission will please be in order. Mr. Prosser, I understand, has a report to make.

Mr. PROSSER. Mr. Chairman, I would like to report a rather unfortunate situation which has arisen in the House and Senate, depriving us of the presence of the congressional members of the commission this afternoon. Senator Smith is floor leader this afternoon on matters relating to the Mexican War and finds himself unable to leave the Senate. I think it would be possible to secure the presence of Senator Smith to-night. Congressman Hughes has a bill on the floor of the House, out of the Committee on Education and Labor, which is on the Calendar and for which he must take the responsibility this afternoon. Congressman Fess appears at the door as I speak. Senator Page can not be located, but he has two committee meetings, one of the Committee on Indian Affairs and one of the Committee on Interoceanic Canals, this afternoon, the second a very important meeting, and it is very doubtful whether he can be here.

In view of the situation it seems to me it might be highly advisable for this presentation of material on the part of the representatives of the national society to go over until to-night, when they may have a chance to address the full commission. They have been in conference here and have formulated a statement of their views and their desires, and I feel that they should be given a full hearing as far as possible by all members of the commission.

I therefore suggest, in a tentative way, the possibility of setting the hearing for 8 o'clock to-night. I understand that the three representatives who have come here to make the presentation this afternoon are willing to stay over until to-night if that arrangement can be made.

After informal discussion it was, upon motion duly seconded, agreed that the commission adjourn until 8 o'clock p. m., and that the members present, as a committee, proceed to hear Mr. David S. Hill and Mr. D. W. Springer.

EVENING SESSION.

STATEMENT OF DAVID S. HILL, PH. D., DIRECTOR OF DEPARTMENT OF EDUCATIONAL RESEARCH, PUBLIC SCHOOLS, NEW ORLEANS.

Dr. HILL. As a representative of the city of New Orleans, I desire to emphasize before this commission, first, the desirability in general of extending the aid of the Federal Government to cities and

municipalities able to establish suitable trades schools for the vocational training of boys and girls, and, secondly, of extending this aid in such a way as to elicit gifts of money from philanthropy and municipalities for the purpose of vocational education.

The fruitfulness of investments made by the Government heretofore in the matter of aiding local educational efforts is attested by the general success of State agricultural colleges and State universities These doubtless owe to the Federal land grants their initial growth toward the increase in plants and influence that has made directly for the economic and social betterment of our whole population.

While the agricultural and mechanical colleges are open to the youths of the city, nevertheless there have been millions of boys and girls in our cities untouched by the influence of the agricultural college. These city boys and girls, who are destined to enter mechanical trades, it is folly to neglect. Better preparation of our city youth for efficient occupation means a social uplift eventually affecting both country and city. In its application to life, all skill in mechanical occupation is fluid, in that the worker trained in one city may afterwards live in another. Increase of quality and quantity of work through skill is of benefit to both consumers and producers, whatever may be the geographical distribution of the products of labor. Therefore, in consideration of past success in wisely applying Federal aid to agricultural education, and the fact that the youth of our cities are in dire need of suitable vocational training, especial effort should be undertaken to encourage our cities to extend the benefits of the right kind of vocational training to the increasing number of youths, who, without such training, are sure to join the mass of incompetents.

What has happened in New Orleans may happen elsewhere. In the city of New Orleans, the largest city of the South, there is in the possession of the city a fund of nearly $1,000,000 available for the establishment of a trades school for boys. This fund was given outright to the city by Mr. Isaac Delgado, with the explicit provision that all of the fund must be expended for the establishment and permanent equipment of the school, but that the money for maintenance and pay of teachers must be provided otherwise. While this philanthropy will enable New Orleans to establish one of the most complete trades schools in the whole country, nevertheless other financial burdens carried by the city make it almost impossible to provide wholly for the maintenance of the institution. This concrete illustration indicates how an educational plant of wide utility could be quickened into immediate activity if only the lever of Federal aid were available.

Mr. PROSSER. Dr. Hill, why is it that New Orleans would maintain as large a school as any other large city? Do you bring that out further in your remarks?

Dr. HILL. You mean the reasons for our present financial condition?

Mr. PROSSER. Yes. Why is it you can use a million dollars to build a trade school and the city finds itself unable to maintain that school after it has been built and equipped?

Dr. HILL. That is a long story, but some of the reasons are these: New Orleans has been crippled financially by the enormous expenditures incidental to the building of our sewerage system, for one thing.

You know we are peculiarly situated with regard to the Mississippi River and the surrounding swamps, and, owing to the necessity of installing modern sanitary measures, we have been compelled to put in a very expensive sewerage system, which is now nearing completion. It has been necessary to pledge our revenues in a way that is very unusual for American cities, and we are scarcely able as it is to maintain our public-school system adequately. As a matter of fact, last year we were compelled, as a measure of economy, to cut the salaries of all teachers and employees.

Mr. PROSSER. Is it not also true that the city has an enormous public dept that came down to it as a result of the Civil War?

Dr. HILL. That is one complication, but the immediate occasion of the present financial condition is this matter of the sewerage system and public improvements.

Representative FESS. Then the presentation for your city would be different from what it would be for Cleveland or Philadelphia?

Dr. HILL. With regard to the rather crippled financial condition of our city, yes; but with regard to the rather unique provision of Mr. Delgado's will, no. It is altogether possible that a philanthropist here or there, as I shall consider in a moment, might be persuaded to give to a municipality a very large sum of money for the establishment of a trade school, particularly if he thought that fund would be protected and safeguarded from the storm of local party politics by means of a sane Federal inspection.

Representative FESS. Then your idea would be that if a city would furnish a plant, by whatever means, whether by gratuity or public taxation, it would be proper for the Federal Government to assist in the furnishing of some teacher, or supervision——

Dr. HILL. To encourage that kind of thing, as I shall consider in just a moment.

If Congress could pass a measure making it possible for the Department of the Interior to deal directly with city governments in the establishment of trades schools, where considerable sums of money are offered for establishment and permanent equipment, several advantages might accrue:

First, money, both from municipal councils and from philanthropists would be elicited, owing to the confidence generated by the assurance of Federal aid and a wise supervision insuring against the ravages of local, partisan politics.

Second, delays and disputes regarding education that arise in legislatures in States where the conditions in the one or two existing large cities are vastly different from the country area surrounding would be avoided. Without the slightest injury to the country interests a way could be found to enable a city government to deal directly with the Department of the Interior in such cases as the Delgado school. Provision for such cases that might arise in any large city could be made in a special section of a proposed educational bill and need not interfere with its other provisions as affecting a State as a whole. The actual rules to be complied with in such special cases need not be inconsistent with the function of State boards of education and State legislatures. To this end it is suggested that a special provision, carrying a moderate appropriation, should be embodied in any proposed bill for the consideration of Congress. This sum could be divided equitably among the States according to population, for the

encouragement of benevolences or other funds which may be available to city authorities for the establishment of trades schools to be conducted under the auspices of councils or boards of education.

Equitable division of effort for our industrial development and the education of the people in day trades schools can hardly be attained by allotment of Federal aid solely upon the basis of the proportion of population at present engaged in trades, manufacturing, and transportation. Cities mostly in need of development of trades, manufacturing, and transportation, because of the small number of persons engaged therein, would receive the least help. Cities and States where manufacturing development is oldest and skill of laborers greatest would receive the greater aid. If we are to develop our country as a whole we should apply support where the vocational needs of our people are greatest. This principle was recognized in the Page and other bills of recent Congresses, by proposed allotment of additional sums to States where the population engaged in certain industrial pursuits is small. If a community small in population and weak in industry is able to set aside $1,000,000 for the vocational training of youth, and another community, either large in population or strong in developed industries, is willing to set aside merely a quarter of a million dollars for the same purpose, then in the former case sound policy would demand a larger Federal appropriation than in the latter case, where mere size of population and character of occupation be criteria, regardless of needs or of local zeal, for education attested by actual monetary investment. This special sum to be used as an incentive to municipalities and to individuals willing to bestow money upon municipalities should, of course, be protected against exhaustion by rich communities able quickly to absorb a whole appropriation. The proffered allotments of this special sum could be made to the States according to population, the ultimate divisions within the States being contingent upon the sums contributed by municipalities for the establishment of vocational schools. This whole special sum, a fraction of a general appropriation, it is intended, would be set aside as only a special incentive, and in addition to the other sums that might be appropriated for promoting the various aspects of vocational instructions, as in agriculture, home economics, trades, and industries, or in preparing teachers for such education. These other various sums might be allotted according to provisions modified after the provisions contained in the Page bill of the Sixty-second Congress (Calendar No. 348, S. 3).

Whatever may be the recommendations of this commission and any final action upon the part of Congress, as a citizen of our whole country and as a southern man, I desire to register approval of the movement to extend Federal aid to the vocational training of the masses under wise conditions of inspection and distribution. The public schools are not a failure, but much of our secondary and college education bears the taint of the formal disciplinist and of the classicist of a dead generation. The need for making education a part of life is evinced by the multiplication of fraudulent schools and shallow devices that are offered as short-cut avenues to success in skilled occupation and honorable livelihood; the need of a practical education that develops skill, knowledge, and morals is also shown by

the presence of thousands of incompetent, idle men, paupers, the needlessly diseased, the criminal, and the insane. In a general movement for the increase of individual power through skill and knowledge, and for social betterment, employees and employers, all factions and sects, all citizens may unite.

Representative FESS. Doctor, you have used the expression "Federal aid under wise inspection and supervision." Who would inspect?

Dr. HILL. Of course, that is a difficult question to answer without giving it a great deal of thought.

Representative FESS. It is one that troubles us.

Dr. HILL. It seems to me, however—to answer the question offhand—that that would necessarily come under the province of the United States Commissioner of Education and his subordinates.

Representative FESS. The inspector should be a Federal officer rather than State?

Dr. HILL. Yes, sir.

Representative FESS. Under what supervision?

Dr. HILL. The supervision may be a matter of cooperation between the municipal, State, and Federal authorities.

Mr. PROSSER. Dr. Hill, in your discussion did you have in mind a dealing of the National Government directly with cities within States, or did you have in mind the dealing of the National Government with States as a whole?

Dr. HILL. With regard to this special sum which I have suggested to be used as an incentive to the bringing out of additional moneys from individuals or municipalities, I made reference to the Federal Government directly with municipalities.

Representative FESS. Would you approve that?

Dr. HILL. I think there are some reasons with regard to this special sum and not with regard to the appropriation as a whole that might have some advantages. As I said, one advantage is that, I believe, such patronage by the Government, such cooperation, might encourage and elicit unexpectedly, in some particular cases, large sums of money for this purpose. Then, again, I think it would at least ameliorate the condition that exists in some of our States where there are only one or two large cities.

Representative FESS. Then the application for aid should come directly to the Government from all these centers?

Dr. HILL. Well, that is a matter of routine, of course, it seems to me.

Representative FESS. Can you imagine what sort of time we would have in Congress?

Dr. HILL. I suspect it would be rather lively, I acknowledge.

Mr. PROSSER. Dr. Hill, does not your plan contemplate the restriction of this special bounty to a very few cities—cities of large population, like New Orleans, Cleveland, Philadelphia, Pittsburgh, Denver, Chicago, and San Francisco?

Dr. HILL. Of course, it would be very difficult there to keep away from the shoals of class legislation in regard to certain groups of people. But necessarily, I should think, such special bounty would have to be limited to cities of a certain class or group.

Mr. WINSLOW. Why to cities of a special class? Suppose I had a grandfather who died, leaving money that had accumulated for 10

years to the amount of a million and a half dollars to a little town of less than 10,000 people. Why should not that little town apply for assistance?

Dr. HILL. The only two reasons I can see are, in the first place, that a specific bounty is intended for a kind of trade school that is better suited for a city where there is a large population, where industries grow; and the other is that it would take an enormous sum of money, utterly out of the question, making it entirely impracticable unless we were to limit it in its distribution and application.

Mr. PROSSER. There is one thing about your plan that disturbs me. Those of us who have been in the East quite a while are very familiar with the small town, the comparatively small town or city with one highly specialized or dominant industry. There are more people engaged, for example, in machine-shop work in the town of Hyde Park, a suburb of Boston, than there are in the whole city of New Orleans. New Orleans is not a great manufacturing place as yet. It has a lot of very widely diversified and very small industries. The chances are that a trade school for the machine-shop trade would be established much more successfully from the standpoint of the demand for it in Hyde Park than it could be in the city of New Orleans.

I was wondering why the granting of that money to the State, the State requiring the cities within its borders to submit to certain conditions in order to get the aid, might not in the long run—laying aside those particular and peculiar conditions that confront New Orleans—bring the best results. You are a southern man, and I wonder what the people of the South as a whole think of the attempt of the National Government to step within the boundaries of a Commonwealth and deal directly with a system of city schools as to vocational education. What would they think about that plan knowing, as we do, how dear to their hearts has been the idea of State autonomy?

Dr. HILL. As far as being a southern man is concerned, I would not, of course, yield one iota of sentiment in that respect. But with regard to this bugbear of fear of Federal inspection—why, to my mind, it does not exist at all.

Mr. WINSLOW. It is purely imaginary, do you think?

Dr. HILL. It exists in the minds of a great many people, unquestionably. But I can not conceive how we could expect the Federal Government or any other source to expend large sums of money without knowing, as a matter of business, exactly how it is spent and when it is spent. And that knowledge can only be gained by an efficient system of inspection. Of course, that word "inspection" can be used in an offensive sense.

Mr. PROSSER. Could not the same end be arrived at by making a contract with the State in the nature of a partnership, and then make the grant from year to year as long as the State lived up to the terms of the agreement?

Dr. HILL. Yes; leaving open the matter of inspection.

Mr. PROSSER. Yes; leaving the State to do the actual inspection.

Dr. HILL. Yes. I would rather not confuse this matter of the special fund to be used as an incentive with this larger issue. I think, Mr. Chairman, that is about the only way it could be done, because if we do not have the cooperation of local authorities there

will be friction all along the line; but I see no insurmountable obstacle.

(Here followed an informal discussion which the reporter was directed not to take.)

Mr. LAPP. I have another question to ask Dr. Hill. What is the system of organization in your State, Dr. Hill, as far as the State board is concerned and the local board? Have you not a State board of education provided for in your constitution, and local boards provided for each parish?

Dr. HILL. Yes; but by action of the last legislature a new charter was granted for the city of New Orelans, and we are practically under control of a municipal council of four and a school board of four; so that while the reports are sent to our State board of education they have very little if any supervision over us, with the possible exception of a little grant of some $3,500 for domestic science. I believe they have a right to inquire specifically how that is expended.

Mr. LAPP. Is the charter itself a legislative act?

Dr. HILL. Yes.

Mr. LAPP. Is there not a provision in your constitution that requires that each parish shall have its special school organization?

Dr. HILL. I do not know that.

Mr. LAPP. Are there any conditions attached to this grant of $1,000,000 to the city?

Dr. HILL. The money is given outright to the city. Of course, the conditions of the grant are about, in substance, as I stated, that the money shall be expended for the establishment of trades schools for boys.

Mr. LAPP. Is there any board provided, or anybody that has the say? It is strictly the property of the city, and the city can apply it for that purpose?

Dr. HILL. That question would be better answered by referring to the will. I do not happen to have a copy with me.

Mr. PROSSER. I would like to point out a significant thing involved in the principles that Dr. Hill has given us. It is illustrative of conditions in general throughout the country. Here is a great southern city, the largest city in the South, facing the Panama Canal, with large possibilities of industrial development for the immediate future, with many small manufacturing establishments, rapidly growing and realizing keenly with a vision of the future the absolute necessity of beginning at once the proper training of its workers. It finds itself without funds.

I know enough about the conditions in New Orleans to know that it is going to take a most tremendous sacrifice on the part of its people to take advantage of this great gift of Delgado. It is altogether likely that the thing will never be realized as it should be realized in the immediate future, without the stimulus of national grants. Now, just a little bit of money from the National Government to the State of Louisiana, finding its way through proper channels to the city of New Orleans at this time, would put at the mouth of the Mississippi River, in our great shipping port for the Gulf of Mexico, one of the greatest trade schools in this country. That stimulus is needed now. A dollar now is worth $10 20 years from now, is it not Dr. Hill?

Dr. HILL. I don't think that exaggerates. I was just looking for a telegram which I have with me, which says that unless we are

able to obtain either Federal or State aid, or both, the opening of the Delgado school will doubtless be indefinitely postponed.

Mr. LAPP. Does the fund revert?

Dr. HILL. No.

Mr. WINSLOW. It would just be indefinitely postponed?

Dr. HILL. The money is given outright to the city. We have it. I do not mean to overemphasize that suggestion about this special bounty for the encouragement of other governments, as I have said, but it seems to me that the suggestion is worthy of some consideration.

That, however, is not the big thing we have before us. The main thing is to obtain Federal aid in consistent and hearty cooperation with the State authorities. I think the plan Mr. Prosser suggested just now, if it could be worked out for the larger part of the appropriation, would be entirely feasible. That is, to have Federal inspectors to operate through State boards, chosen under wise regulation and given considerable latitude as to the local conditions.

Mr. PROSSER. Dr. Hill, you are familiar, are you not, with the constitution of the State of Louisiana?

Dr. HILL. Not very, no.

Mr. PROSSER. Have you examined lately the provisions regarding education in that constitution?

Dr. HILL. No, not recently.

Mr. PROSSER. Are you aware whether or not the constitution of that State would permit the organization of an independent system of vocational education, or whether the constitution requires that all education, both general and vocational, be under the present system?

Dr. HILL. I know of no such provision as that, though at the moment I see no reason why we should not organize any kind of system of education, any more than any private institution or sect.

Mr. PROSSER. Have you examined the provisions for Louisiana as yet, Mr. Lapp?

Mr. LAPP. I have. There is a confused notion in my mind that there is a provision in the constitution of Louisiana that provides for a State board of education to supervise all educational activity in the State, which, of course, would be prohibitive of any other agency to do the same thing. I can not say definitely.

Mr. PROSSER. There is no provision as to how the thing shall be done in the local parish?

Mr. LAPP. There is a provision, but evidently that does not apply to New Orleans. There is a provision for local school officers in each parish.

Mr. PROSSER. Does it say that all education shall be under their charge?

Mr. LAPP. I am not sure whether it makes that statement or not; I think there is something to that effect. I imagine Louisiana is one of the States that could not have a dual system of control.

ADDITIONAL STATEMENT OF MR. DURAND W. SPRINGER.

Mr. PROSSER. I should like to ask Mr. Springer several questions. You are secretary of the National Education Association?

Mr. SPRINGER. Yes, sir.

Mr. PROSSER. Your work brings you into contact with all the people engaged in education in this country?

Mr. SPRINGER. Well, with representatives from all classes. I have not yet met them all individually.

Mr. PROSSER. You have had some opportunity to become acquainted with rural-school conditions?

Mr. SPRINGER. Yes.

Mr. PROSSER. Suppose this commission were facing the question of whether it would recommend grants to the States, to be distributed to rural schools for the teaching of agriculture, or recommend grants to the States to be used for the supervision of the teaching of agriculture in rural schools. Which of those two methods, in your opinion, would bring the best result at the present time? Which is the most needed?

Mr. SPRINGER. I should say supervision to start with. With the information which the teachers that would have to carry on the work now have, with the training they have secured, and the necessity for really taking teachers who have been trained for other purposes, as is always necessary when you introduce new subjects, supervision would be the more valuable in the immediate future.

Mr. PROSSER. Can you give the commission some idea of the different ways in which a supervisor for agriculture in a western county, for example, could be of service in promoting elementary and secondary school instruction in agriculture?

Mr. SPRINGER. I should think that it would have to be done largely by extending some system of county institute work.

Mr. PROSSER. That is to say, you would have this supervisor hold meetings of teachers——

Mr. SPRINGER. Yes, sir.

Mr. PROSSER. At which he would discuss matters and problems——

Mr. SPRINGER. And explain methods, and tell them what could be done in their respective places.

Mr. PROSSER. You would think his largest service would be, then, that of training teachers in service, and of getting, through direction and supervision, better methods of teaching the study of agriculture?

Mr. SPRINGER. Yes. That was brought to my attention by an incident in Minnesota just a little while ago, when for the first time in the history of the country a State university gathered all of the superintendents of the State for a week—a short institute—county superintendents, city superintendents, principals of schools, to the number of about 500. Now, some of those men were drawing $500 a year salary, some were drawing $5,000 a year salary, and they had them all there for that week. They brought in experts on school problems. I happened to be present at Tuesday's session and the Friday session.

Mr. PROSSER. That was the conference of the University of Minnesota?

Mr. SPRINGER. Yes. The work I saw done there, while it did tno relate to this, was nevertheless of a character that could be utilized to good advantage in developing a propaganda, and with the teachers that you have at the present time who are equipped to teach agriculture, you certainly have to prepare a great deal more before you get far, or you have to take them and give them the instruction along specific lines which they have not got in the work that they have been taking.

Mr. PROSSER. Does your thought carry you further into the idea of smaller conferences than townships, having this same supervisor go to smaller local groups for the same purpose?

Mr. SPRINGER. Yes; it is that kind of propaganda.

Mr. PROSSER. How far would that man be able to do the thing of which you speak and add to it a small amount of actual visitation of the schools himself, so that he would come in personal contact with the teacher at her place of service and with her problems?

Mr. SPRINGER. That would depend, of course, entirely upon the force you could throw into a State, the number of people that with your State funds you could set at work. If you had a sufficient number so that you could give them a limited area to cover, they could cover it, not only in larger groups but also in visitation the same as a county superintendent of schools.

Mr. PROSSER. Do you believe the present county superintendent could help in the supervision of instruction in these special subjects?

Mr. SPRINGER. I think he could, if you had persons who could give them instruction as to ways in which they could be of assistance.

Mr. PROSSER. Is not the county superintendent already overloaded with details, and does he find his way into every schoolhouse in his county more than once a year on the average?

Mr. SPRINGER. I question whether he does not at least do that. I know some county superintendents in pretty good-sized counties, thickly populated, who get in four times a year.

Mr. PROSSER. It is largely a question of roads, is it not?

Mr. SPRINGER. Yes, sir.

Mr. PROSSER. And means of transportation. There are undoubtedly some counties in large agricultural districts with poor roads where the county superintendent does not get in very often.

Mr. SPRINGER. I presume that is true.

Mr. PROSSER. When he goes he can not stay long. Often he knows but little about the subjects of agriculture or home economics, because he has not been trained in them. Would you advocate, then, the idea of attaching to the county superintendent a staff of specialists who would be of assistance to him for these special subjects?

Mr. SPRINGER. Of course, if you did that their work would be confined exclusively within a county, unless they were simply loaned from a State body.

Mr. PROSSER. Would you approve, instead of having the Federal statutes such that these people were to be used in a given local area, having the Federal statutes appropriate a certain amount of money to the State, depending on its population, and let the State board of control within each State use that money for supervision in such amounts as meet its conditions?

Mr. SPRINGER. I think that in the long run you would probably get better results in that way. It depends somewhat, of course, on the amount of money you are contemplating asking for and appropriating. But I should think you would not have enough to completely cover the ground at the beginning. Naturally it would be a matter of growth, and I should take it that you would grow better from a State center into certain localities. There are certain localities in Michigan, for instance, where the same amount of money spent would be productive of much better results than if spent in other localities.

Mr. LAPP. Do you think the people of Michigan generally, the leaders, are in favor of national grants?

Mr. SPRINGER. I should think so.

Mr. PROSSER. What would you think about this plan: Suppose that the commission should, recognizing the right of the State to take care of its own affairs, give the money to the State and say to the State, "You shall either designate or create your State authority for taking care of this money." That puts the issue squarely up to the State in Michigan, Illinois, Pennsylvania, California, and elsewhere. It seems certain from the drift of all legislation that in practically every State in the Union the State board of education would be designated for that purpose; and in States having only a State superintendent of public instruction a State board of education would probably be created for that purpose. Would not that be the line of legislation, on the whole, that would relieve the commission and the National Government entirely of the charge of interfering with the affairs of the State?

Mr. SPRINGER. Yes; I think it would. And yet I think that there are certain things that even the National Government can do in this matter, in addition to furnishing the money to be so divided, that will be beneficial, because in some of the States you will find that the State department of education perhaps does not know as much about those matters as it might. It seems to me it would be perfectly proper for the National Government to add to the Department of Education sufficient funds so that it could carry on such investigations as would be valuable in giving material aid to these States.

Mr. PROSSER. You are speaking now of the help that Federal bureaus might give to the work?

Mr. SPRINGER. Yes. And, while I think that that work ought to be done through the Bureau of Education, I believe that if you do anything you have really got to have a sort of permanent board that might be made up of the commissioner of education and representatives from your other departments here that would be—well, they should be satisfied that the State was carrying out its part of the agreement and not simply taking the money and not giving any return therefor. If where we have a State board of education it is not equipped to do this thing, then it either ought to equip itself so that it can or else not get the money. You have to have, of course, somebody to answer the question whether it is doing that.

Mr. PROSSER. It seems to me that the commissioner of education, if he were the executive officer at Washington, ought to welcome, and I believe he would welcome the support of a board. I do not believe that any one man would be able to stand against the pressure that would be brought to bear on him.

Mr. SPRINGER. Not for a minute. I think that what is done should be done through the work of the commissioner of education, but I think you have to have a board, of which he would be a member, that must finally pass on these things.

Miss NESTOR. What have you in mind now? The national board?

Mr. SPRINGER. Yes.

Miss NESTOR. Mr. Springer spoke of Michigan and Detroit. Do you know to what extent the girls are taking courses there?

Mr. SPRINGER. Just about half and half with the boys.

Miss NESTOR. As many girls as boys?

Mr. SPRINGER. Yes. When that thing is done there will be four distinct schools. That is, the scheme contemplates four distinct schools, one of which will be devoted exclusively to the work of the girls—domestic science and kindred lines.

Miss NESTOR. What do you mean by "kindred lines?"

Mr. SPRINGER. Well, perhaps I should not have said "kindred lines," because domestic science covers the whole; domestic art probably is a better term—dressmaking, cooking.

Miss MARSHALL. Are those girls at work part of the time?

Mr. SPRINGER. Yes. We have three classes of students that cook. From 8 o'clock in the morning until 3 are the regulars, those are what we call the "all day"; then in the afternoon, and then in the evening. There are boys from the machine shops, like the Burroughs Adding Machine Co. Then, there are the girls that come for this other work. Then we have them from offices as well, called the commercial. The Edison people send over some of theirs.

Miss MARSHALL. They come when?

Mr. SPRINGER. From 3 to 5, half past 5 to 6, depending on the kind of work they are taking.

Miss MARSHALL. In the aggregate, are there many girls who get away from their work and come?

Mr. SPRINGER. Yes.

Miss MARSHALL. And come from their shops?

Mr. SPRINGER. Yes.

Miss MARSHALL. Then, just why do they take dressmaking and domestic science?

Mr. SPRINGER. Those that come are largely those who come from the offices.

Miss MARSHALL. Those that take dressmaking come in the evening?

Mr. SPRINGER. Largely in the evening.

Miss NESTOR. They come from factory trades?

Mr. SPRINGER. Not so much from the factory trades; so far, the girls have been largely coming from office help.

Miss NESTOR. Then this training which they are taking is largely the home economics? They are not taking it so much as vocational to go into positions where they can apply it in institutions as dietitions, etc.

Mr. SPRINGER. The girls who are taking it for vocation are largely doing the commercial work.

Mr. PROSSER. The others are taking it to make their own clothes, I suppose?

Mr. SPRINGER. Yes. The appropriation for the ground was just passed at this last session of the board of estimates. The plan was laid out covering 10 years of work, and the development of four distinct schools.

Miss NESTOR. What were those four distinct schools?

Mr. SPRINGER. One will be a girls' continuation, and one will be a boys' continuation; one will be commercial, and one will be trades for the boys.

Miss MARSHALL. All-day?

Mr. SPRINGER. All-day, and continuation, and night.

Miss NESTOR. The commercial school, for instance, is that just for boys?

Mr. SPRINGER. Girls and boys both; but there will be eventually two separate. There will be a line of demarcation between the girls and the boys for that, in the same way.

Miss NESTOR. In the commercial?

Mr. SPRINGER. Yes.

Miss NESTOR. Will they be given equal opportunities?

Mr. SPRINGER. Just the same.

Miss NESTOR. The girls can take any course in there that is open to the boys?

Mr. SPRINGER. Just exactly.

Miss NESTOR. And how about the trades? Will they be distinct?

Mr. SPRINGER. I imagine there will be very few girls taking the trade work that is offered.

Miss NESTOR. If there were any trades offered, what opportunities——

Mr. SPRINGER. If it pertained especially to the women?

Miss NESTOR. That they would desire to take up, it would be open to them?

Mr. SPRINGER. I think so.

Miss NESTOR. They would not be barred; it would not be considered a boys' school?

Mr. SPRINGER. Oh, yes; that is practically what it will be; it will be just like, for instance——

Miss NESTOR. What do you think will be particularly planned for the girls? What is in mind for them?

Mr. SPRINGER. That matter has not yet been determined. The school there has grown up as a matter of fact, and all of the appropriations have been secured by complete cooperation between the board of education, the chamber of commerce, and the Manufacturers' and Builders' Exchange.

Miss NESTOR. And the labor organizations?

Mr. SPRINGER. The labor organizations, yes. During the time I was there—I have been away two years now—I started the High School of Commerce. We had several dinners at the school, at which the labor organizations were represented; the Chamber of Commerce was represented; the Merchants and Manufacturers Exchange, the Board of Education—everything that has been done has been practically with the unanimous agreement of all the organizations, and that is one reason why it has been as successful as it has. They have not gone ahead too hurriedly, but just feeling their way along.

Mr. PROSSER. I am sure, Dr. Springer, the commission is under very great obligations to you in coming back here a second time to give us the contribution you have this afternoon. It is going to be necessary for us now to take up another matter.

Whereupon, at 4.30 o'clock p. m., the commission went into executive session, at the expiration of which it took a recess until 8 o'clock p. m.

EVENING SESSION.

At the expiration of the recess the commission assembled.

Mr. WINSLOW (presiding). The commission will please be in order. Miss Gill, we should now be pleased to hear you, provided you are ready.

STATEMENT OF MISS LAURA DRAKE GILL, SOCIETY FOR THE PROMOTION OF INDUSTRIAL EDUCATION, SEWANEE, TENN.

Miss GILL. Mr. Chairman, I come, as you know, as one of the charter members and as—for the last six months—one of the trustees of the Society for the Promotion of Industrial Education, and I have been asked to explain what I would naturally say in answer to your questions, and also to say just a word about the social bearing of it as it has appealed to me. I feel that you have before you one of the most urgent matters which is now facing us as a nation, in its relation to our happiness and to our prosperity. My own relation is, of course, in three phases. First as an educator, believing as I do that real mental power comes in doing even more than knowing. I thoroughly believe in this vocational training. I think that a definite vocational aim for men and for women alike must be the motive which will lead them to an intelligent facing of their problems and to a conscientious meeting of their obligations. This habit of making whatever knowledge one has usable is to me the most important habit that we can cultivate in young people, and so from the educational side I am glad to speak, for it in a measure seems likely to increase the skill of our young people. As a woman I have a very special feeling about the matter, of course. There are certain almost universal points of view which women are now holding, which I think should be destroyed, if possible; and one I am sure is a consciousness of considerable restriction in the types of service which they are naturally allowed to render to society. Some of you may know the visions which I may have on this point came from a year and a half of definite vocational guidance work for skilled women, in which I had the confidence of those women, and I came to look at matters very much through their eyes, not only from my own personal experience, which has been a happy one, but from their point of view, which in many cases had been very limited and very unsatisfactory ones.

The second point of view which women hold in large numbers, which I want to see destroyed, is the feeling that they have been underpaid for their services; and the third and most tragic point of view which I want to see done away with is the feeling that their greatest ambition at present is service through an acceptance of an attitude of parasitism, and in place of these unfortunate points of view of woman I want to see three others in their place. One is an assurance that to every woman may come a free self-expression in a way; secondly, an assurance of absolute justice in the reward for their work; and, third, that an assurance of respect shall come to her only in proportion as she renders a genuine contribution to the world's work. My third point of approach is through that of the patriot; I might say, the citizen and the patriot. I want to see a happy people, and I do not believe that genuine happiness ever comes except through the consciousness of honorable work done for an honorable motive, and so I wish to see come through that a self-respecting pride, and a skill and habit of finding joy in constructive activities, in real work. I believe, Mr. Chairman, that the American people realize the situation fully. I believe, also, that they are willing to do anything in their power to remedy it, but I think that the real difficulty is that neither they nor their leaders have a clear vision of the way to attain this desired end.

If there is any justification for Federal aid, it seems to me, it must come at just this point; to take some of the strategic points, and single them out by careful thought and meet them in such a way as will enlarge the vision of the whole Nation as to what efficiency and honorable activity is.

It is only then by meeting these strategic points, by wise focusing of effort, and by a proper safeguarding of health, that I believe we have a right to ask anything from the Federal Government for education in the States. Wherever we feel it is an investment which is going to give a very large return in proportion to the outlay in national well-being, I think we will be justified in doing it.

The reasons for offering this Federal aid seems to me to be not chiefly through the financing of schools, not chiefly through the stimulation of school activities, especially in agriculture and household economics, where, I think, the stimulation is already there. I do believe that in regard to the industries we still need that stimulation. I think the giving of prestige to labor through national consideration would be a definite step, but I think there are three real needs, which are to me the chief ones. First, the direction of trade instruction; second, standardization of trade skill; and, third, the standardization of the qualifications of the trade teachers. These seem to be the three points at which we may hope for some genuine national advantage from Federal aid. The justifiable forms for such help would seem to me to be in agriculture; preeminently in the industries, in a unique way, instead of trades based on household arts, and in the standardization of the qualifications of teachers.

In taking up the points which are asked of us here, we should therefore answer your second question with the vision that in agriculture and in household arts stimulation is longer necessary; in the trades it is preeminently still necessary.

Are Federal grants needed in order to bring about a standardization of the work?

I think only partially. I think money is not one of the chief matters at all, except that it may bring a lever to bear on the standards, and I think only temporarily. We need financial help at present, but not with the idea of being continuous. The beginning of prestige through national recognization is certainly something which seems to be thoroughly needed, and in standardization we find our chief argument, as we have gone along.

The third question I have already answered in the general statement, that I believed the forms of the service should be through agriculture, so far as it remains necessary; in industry, which is almost undeveloped in trades based on household arts, which is an absolutely undeveloped field in any general sense, and upon a standardization of the qualifications of teachers.

Mr. PROSSER. Miss Gill, what do you mean by "trades based on the household arts"?

Miss GILL. I have a feeling that in this work in vocational education we must draw a sharp line between the amateur and what I might call the "master workman," if you take that in the sense of applying it to women as well as to men. I would consider the undeveloped, low-grade farmer with his many undeveloped activities and the household worker with her many not highly developed activities

as "amateurs." As I understand the Lever bill, it is aimed to take a farmer at his work and lift him out from this general class of amateurs into the class of skilled—I might say "master"—workmen; that is to say, let him specialize in something which is best adapted to his locality, specially adapted to his local markets or to the markets within his reach. I feel that for women we have possibilities of fine trades. We already have developed some of the trades based on household arts in the clothing trades. Upon household economics I believe we shall in time develop a much finer group of trades than we ever can develop upon the side of the household arts. I believe that as soon as we have enough knowledge of chemistry to make the chemistry of metabolism thoroughly understood and the chemical changes of the food in the body, we shall work out a system of dietetics which will have a bearing on national well-being undreamed of. I believe in the developing of institutional management, and that does not require fantastic advanced education by any means. It is an art based on real practice, and we are suffering to-day in this country because the training is not really placed on practice. If we get a sharp line between trades having a basis of skill, and analyze these trades as the elements of any business may be analyzed, I believe we can develop as fine trades in household economics based upon the foundation of enthusiasm and of skill as we have been developing in the last few years in other occupations. I do not believe, however, that the household economics in its present stage is worthy of the name of applied science, and I believe that it belongs to-day in the elementary schools and as a part of general education. I believe that a reaction upon the schools in giving household economics to every girl child in a much broader and fuller way than they are now giving it will be brought about by having a vision of its future possibilities for all girls by presenting the idea of household economics as a trade for self-support. I think the girl who has been trained to look upon any trade in the fine sense will be all the better when she goes back into the home, no matter what its limitations, in doing the work of the home.

Unique training of teachers, which I would consider one of the three ways in which this group might perform very effective service—I have just one point of view that I would like to express, and that is that I believe a visable demand must always precede any adequate training upon the part of teachers for unique work. I have had a great deal of experience in seeing possibilities, as I thought, for young women, if they would only take a small amount of special preparation for it. Unless there was a concrete position which they thought they might apply for with hopes to attain, it was very hard to get them to put the investment into that; to be ready for something that is not sure, I suppose is not quite in human nature. So I believe that if in offering less Federal aid at first we should help, through salaries, any school under the form of procedure—of course, that is determined—and can find a person who has been uniquely fitted, through chance experience, to render the service we want to see rendered, we should start to work right there with that uniquely trained person. There will then be a visible sign for the other town to follow, for the other cities to follow, of something that is working well, and it will also be a visible stimulant to the teachers to prepare themselves to hold similar positions.

As to the kind of schools, I should hope that any bill which was drawn might determine the type of persons to be served. You see the advantage of this training so clearly that the kind of school through which it might be given would be left undetermined. It would seem to me wise to determine the type of persons whom we would serve and then leave to each State, according to its conditions, to recommend to the commission that shall have the approval of their plans the kind of school for their own needs through which they will reach the desired end. I think that might avoid undesirable imitation and would avoid what would, in the future, be an undue limitation upon the freedom of the application of the service.

Of course in all of this effort we must be looking for the favorable reaction of whatever we do for small groups upon the general educational system; and in this standardization of the trades of the higher form of service in any one of the lines outlined here I believe we should find coming in underneath, as a foundation and a preparation for that grand training, a most beneficial type of work in the lower schools.

In question 5, as to the work of the Federal bureaus, I should not feel competent to make any definite suggestions. My idea would be that they might render tremendous service through the formulation of general advice and through providing a system of agents, as visiting experts, who could go from State to State upon the call of the Commission of Education; and I would there have a very strong feeling that it would be only with the Commission of Education as an authoritative body, and not even with the superintendent of schools of the States, that it would be wise for such work as this to be arranged; and that any relation between the Federal committee and the various States should be through the Commission of Education of the States.

In the limitations which should be placed upon these grants I should suppose they ought only to be as reimbursement for salaries.

There are three kinds of expert advisers which the Federal Government could very graciously and wisely offer. One would be through visiting experts, the second would be through the salaries of teachers in the trades, and the third would be through the teachers of trade teachers. In only one of these three ways should I suppose that such service could wisely be rendered. My general thought on the matter would, then, be practically this: That some Federal committee would be in charge of making all the general plans, which would be outlined and sent to all of the States, telling the conditions in which this Federal aid might be applied for; that, second, there would come from each State wishing to cooperate a very special plan of work, outlining their needs and the points at which they feel may be helped and the conditions which they would ask to have met by the Federal committee—first, the reimbursement of a portion of the salaries of the teachers in the trades or the teachers of trades teachers; and, of course, a system of free Federal advisers to the commission of education in the various States.

I think that summary, Mr. Chairman, indicates the way the matter has presented itself to me.

Representative FESS. You might give your conclusions.

Miss GILL. The last four?

Representative FESS. Just about four.

Miss GILL. That the Federal authoritative body—however, it should be later determined who has the matter in charge, as the

active body—should outline a general plan through which this expression may be hoped for from the States; then that each State wishing to cooperate should submit its special plan in detail as to what it would like to do, how it would like to do it, and make that plan so concrete that the Federal committee shall pass upon it—either accept it or reject it or return it as the secretary orders, for modification, toward the reimbursement. The plan would include a reimbursement of a portion of the salaries of the two groups, either the teachers in the trade or the teachers of trade teachers; and that, fourth, there should be a system organized in connection of free Federal advisers to the commission of education in the States that ask for it; that would come from the various bureaus, according to the particular phase of the problem that was under consideration.

Representative FESS. There are a few features brought out at this time that I would like to have enlarged upon just a little—where you speak of the function of standardizing the skill of the worker, also the qualifications for the teaching. What is the real significance? What would I have in mind if I started to do that? What is the basis of standardization?

Miss GILL. You mean in general or for the trades of woman?

Representative FESS. Either—that is, applied to the work we are to do—as a commission to recommend to Congress what Congress ought to do.

Miss GILL. As I have been through my own apprenticeship in arts of various kinds, it has seemed to me that I have been taught in a very blind and bungling way to acquire such technique, and that there is no such analysis of any technique in any of my manuals. I have no acquisition of that which corresponds at all to the analysis of my technique that I had, for instance, in my music. That had been more thoroughly standardized; it was know exactly how motions were to be made, and I was taught how to make them for my music. It was not so for my art. I was taught to get certain results, and I always had to work out for myself how I should get those results. Of course, I am not an expert upon that, and I have to admit that, as you all recognize my experience has been in the more conventional educational lines, but I had my child's study under foreigners and there was hardly anything in the line of art which a girl or boy might turn to that I did not love to do, and my temperament enabled me simply to enjoy most anything which came within my way, either in the house or gardening, or anything in the line of work about the estate. And, as I have watched the trade instruction in the schools, there seems to me there is an absence of analysis of the technique which does standardize the skill without forcing the pupil to go through the long blundering, which, to many of them, must always remain a blunder. It would be a naturally skillful person that could work out the technique to a really satisfactory result, and in the instruction some one who has thought it through and worked it through should analyze it and explain it and force the pupil to acquire those methods and therefore the skill corresponding to it.

Representative FESS. There is a standard——

Miss GILL (interposing). There is one being acquired——

Representative FESS (continuing). Somewhere, and it is our duty to find it.

Miss GILL. I believe it is.

Representative FESS. And to induce those for whom we are legislating to reach the standard.

Miss GILL. And I believe just as there has been applied in recent years the methods of photography in motion pictures, which can be slowed down in analyzing the movement of men in many of their trades, I believe we should have a corresponding analysis of the skill in woman's trades.

Representative FESS. What I am trying to get at is a thing which is feasible and which we can recommend to the House and Senate, that can be worked in law that can be embodied in legislation.

Mr. PROSSER. Mr. Chairman, I would like to ask Congressman Fess if what he has in mind is not to provide by legislation the ways and means whereby the Federal Government and the States could proceed in due and regular order to set up this standardization of instruction, this standardization of skill within trades, this standardization of the necessary preparation of teachers, and that our position here as members of this commission is to consider the ways whereby we may bring those two great agencies of the Nation and the State together for the attainment of this purpose? For example, we have already become aware that these Federal bureaus are capable of a large service; standardizing agricultural practice, standardizing practice in the industries, commerce, and even home economics. Is it not our task to find some way to get the largest possible benefit through the activities of national or State agencies cooperating together? Is that your conception of our problem? That is what I have in mind.

Representative FESS. Yes; that seems to me the only feasible thing that can be done. What I was trying to get at was whether what has been suggested is reachable by the Government acting in cooperation with the States; in other words, we will be face to face with the query: What are you intending to do here? If you are going to vote Federal money, what is it to do? What is the purpose of it? What are you going to reach? You have given a good many general statements that are very suggestive to me; that is the reason I put the question to you a moment ago. You spoke also of the fact that we ought to have the type of service in mind that we want to reach.

Miss GILL. Yes.

Representative FESS. That, again, opens up the question at once with me. There are types of service. What type of service should we be looking toward? Do you have something clearly in mind or is that a relative term?

Miss GILL. My trouble is in understanding your question, I am afraid. To me this is all very concrete. I do not believe we ought to have a vague idea about any of it.

Representative FESS. Put yourself in my place as a Member of the House, to put your ideas in a legislative act. What would you do to establish the type of service that you have in mind?

Miss GILL. I thought, Mr. Chairman, that my answer to that would be included in the statement I made; that wherever a community could show that it had a kind of training needed, and a person who had been uniquely prepared through chance preparation, you might say, to do that in an efficient way, we would set them at their work. We all know that there are scattered cases through the country of

people who are preeminently fitted to tackle a certain portion of this problem, and the Federal Government tries to make that experience as largely as possible universal, does it not? Whatever is worked out in one place is analyzed, put into definite form as a method, taught to people who teach in other places. The teaching of any worthy, of any desirable, trade by a person really equipped for it and the universalizing of that experience for others; that does not seem concrete enough?

Mr. MARSHALL. Miss Gill, since it is claimed that girls spend, I believe it is, only from five to seven years in industry, do you think they should have an equal chance for training in the skilled trades that boys have?

Miss GILL. I think so, just the same; and I think, perhaps, if they are looking forward to marriage, in the home, it is more beneficial that they do this. I believe there is nothing so fatal to a right attitude toward family service than the waste of the time from the school to marriage, in looking for a husband and having a good time in the form of self-indulgence and of idleness. Therefore, I believe that to be busy at a worthy occupation during that time is most necessary to keep a woman in the right attitude of responsibility and of devotion which will make her a good wife and mother. I, moreover, believe that we have argued too much that when a woman was married she was disposed of. I do not think she is disposed of at all until she is in her grave. The large number of widows or of married women forced to support their children or to contribute toward the support of the family, who are in almost every industry open to women, that a woman never knows what moment she may have to go back to some form of wage earning, and not only for herself, as the unmarried woman does, but for others dependent upon her. I believe that the courage that she has in meeting her family responsibilities is tremendously increased by the consciousness that if she need ever do it she may. I think her happiness and privations through the years, when the children are small, is very much more likely to continue if she has that thought that in the years later, when the children are grown, she may again have some real economic service beyond that of a mere home making from entrance into society. I believe that every argument of self-respect, of unselfish devotion, and courageous facing of life demands that a woman have a skill developed to the degree of worthy self-support.

Miss NESTER. Miss Gill, under f, question 3, kinds of schools: All-time, part-time, and evening, did I understand you to suggest that that be left to the States; that the Federal Government give the grants and leave the States to decide which of these kinds of schools they want to establish in different communities, according to the needs of the people?

Miss GILL. That would be my suggestion. I do mean that they should be obliged to submit their plans for approval, of course.

Miss NESTOR. To what extent, in regard to your plan for the Federal commission to approve or reject, would you want the power vested in the Federal Government to approve or reject?

Miss GILL. As I understand this Federal aid, it is to be given not so much because the States could not bear the expense of doing anything that they now recognize as needed or possibly could be made to recognize as needed, but because we wish to offer to them a prize

toward which they may strive, something which will stimulate their imagination, stimulate their ambition, and hasten the time when our workers shall have made their lives worthy. Therefore, I look upon this Federal aid as prizes, and of course think there must be a clear definition of the condition under which they are to compete, and one of those conditions, as I understand it, must be that they submit a detailed plan of what they wish to do, and the way in which they wish to do it, and I suppose there would of necessity be a Federal committee that would have the power to approve—they must, in order to authorize the payment.

Miss NESTOR. To what extent should they approve it?

Miss GILL. Absolutely.

Miss NESTOR. How much would you leave, we might say, of State rights for them to decide?

Miss GILL. I should say that when the general conditions of the award were known, we should leave the utmost possible freedom to the States in determining the plan in which they would carry out the meeting of those conditions. I think you want the minimum of control of the States, but it must prove itself a worthy plan.

Miss NESTOR. You want the maximum of control really with the Federal Government; do I understand that?

Miss GILL. No; I want the fewest definitions of conditions possible from the Federal Government, and I want the maximum of initiative as to the method on the part of the State.

Miss NESTOR. I understood it the other way. You said the "minimum," and that is why I put the other question.

Miss GILL. Yes.

Mr. PROSSER. A moment ago you said you felt it would be desirable not to define the type of school but to determine the type of person to be reached—that is to say, the Federal statute content itself by saying: "This is for the training of people over 14 years of age."

Miss GILL. Yes.

Mr. PROSSER. Or, it might read: "All young persons who have gone to work," and then, having defined the type of worker, to leave the States free to adopt any type of school that seems necessary or desirable to reach that particular kind of pupil.

Miss GILL. I understood that I had made the condition, first of all, that the strict definition should come in the type of worker in order that we might not require so strict a definition in the type of schools through which the needs could be met.

Mr. PROSSER. For example, if the type of person to be reached was the worker or employee over 14, that would immediately eliminate the all-day school and confine the State to part-time or evening school, or both, in dealing with the question.

Miss GILL. Not necessarily.

Miss MARSHALL. Miss Gill, might not that be defined to mean a worker over 14, we will say, who was not a worker in industry, if that person were in a school where a maximum of the time, or a larger portion of the time, were given to trade practice? Might that be defined as being "industry" or "at work"?

Miss GILL. If the conditions of the school were strict enough industrially. In this definition of the type of the worker, I have thought that the definition might perhaps have some such form as this. We count as all in industry anyone over 14 years of age for whom we are

considering, who was in a school chiefly directed to industrial ends, with at least 48 weeks a year of work, giving fully four hours a day to the direct trade in question, under the conditions of the trade outside of the school and producing a product up to the market standard. Now, that would make possible an all-day school, which was practically doing what the cooperative schools of Pittsburgh and Cincinnati are doing in the new school buildings, and part of the time in an industry and part of the time in a school. In some communities it might be impossible to get the apprentice work in cooperation, and it might be better that the school should offer strict trade conditions, and it should be an all-day school.

Mr. PROSSER. I think we would all agree with that sort of standardization. I personally do not believe that you could get the Congress to vote money exclusively for that type of all-day school, because it would be confined to very few places; it would not be possible to operate such a school in a small place, and you would run afoul of and be an indictment of a great many of the day industrial schools now in operation. I think it would be a fine thing if it could be done as an entering wedge with the National Government, but I personally very much doubt whether you could get a scheme of that kind through Congress.

Miss GILL. I believe, Mr. Chairman, that that type of school is going to be a decreasing quantity. I believe that the tendency is to get this trade training, I mean the actual art of the trade, and equipments that are primarily organized for trade purposes on some cooperative plan. I believe it has many advantages. First, the advantage of economy; and, second, the advantage that the child sees from the beginning that its product is put upon the market. A man has a joy of doing a thing that is necessarily done right, and I think that is a great stimulus to standard in the pupil; so that I believe while we have left in that definition of the type of persons the bare possibility of an all-day school, I think the probabilities are small, and I think it will be a decreasing factor.

Mr. WINSLOW. We thank you very much, Miss Gill.

STATEMENT OF HOWELL CHENEY, OF SOUTH MANCHESTER, CONN., REPRESENTING THE NATIONAL SOCIETY FOR THE PROMOTION OF INDUSTRIAL EDUCATION.

Mr. CHENEY. Mr. Chairman, ladies and gentlemen of the commission——

Mr. WINSLOW. Before you go on, we would like to say you will not be interrupted until you have finished. Such questions as we want to ask we will ask you when you are through.

Mr. CHENEY. You can interrupt at any time, because I have not any method or any style. If you want to ask questions at any time, you may.

I would like to say, in justification of attempting to enter this question, that I have had experience with the common school which has 2,000 children, and the administrator of that school for 10 years. I have had experience in the organization of a textile industrial school and a close experience with the textile industry employing 4,500 hands, and through my association with the National Society for the Promotion of Industrial Education have seen and sympathized with and appreciated the aims that they were working for.

The society has existed from its start with consecutive earnestness for the promotion of a public support and for the creation of public interest in the training for useful occupations. It stands for a definite purpose, and what I want to say is not in any way in criticism or in hostility to the aims of a cultural, academic, and common-school system. I only have come, and I think the national society has come, to feel distinctly that the aim of training for useful occupation must from start to finish be absolutely differentiated for the present from that of a general and cultural training. We believe in that, and wish to insist again, not from any feeling of criticism or hostility or lack of belief in the advantages and the necessity of a common-school training for all of the children of all of the States in the United States, but because we have seen so many earnest efforts to bring back that missing link, in connecting the training with life, that we have come to feel that until public confidence has been restored, until we have re-created and reestablished in its ancient place of honor the belief in the training for a useful occupation, that your efforts will be submerged and lost and dissipated, unless you keep them absolutely separate. That does not by any means mean that it must always be so, but as these schools become established, as the public comes to realize the good that they are accomplishing, as they are able to hold their own and demonstrate their value, it may be possible to in large part merge these activities into those of the common-school system; but for the present I am sure it is unalterably the belief of the national society and those who have devoted their lives to it that they must be absolutely differentiated.

Your first question is as to the necessities of Federal aid, and the burden was laid upon me, not because I think that, by any means, the chief necessity of demonstrating the economic need. Miss Gill has admirably stated the social and the intellectual need, and in a minor way the physical need. What is the economic necessity for training for life of those 30,000,000 of people who are engaged in the useful occupations? To get that question clearly before us from the point of view of the Federal Government, because I understand that this commission is only interested in it as a plea for Federal aid, I believe that it must be predicated distinctly from the start, honestly and sincerely on the welfare clause of the Constitution. I do not wish to attempt any constitutional justification of Federal aid, further than to insist that when that Constitution laid it down as one of the duties of Congress to legislate for the general welfare, it established the alternative responsibility of making those taxes equal throughout the land. The welfare that they had in mind, I believe, was a definite and equal welfare, one which affected all parts of the United States, and sought to create an equally greater opportunity for every State in the Union. There are certain industries which affect only the localities which they serve. There are certain other industries which have themselves definitely an interstate value as our interstate commerce railroads have. The labor which is employed in them is of a mobile character; the goods which they produce are in large part exported without the boundaries of the States which created them.

There are other industries which, as the Russel Sage Foundation has described them in their recent valuable pamphlet on the "Con-

stant and variable occupations," as those which relate to all the intricate operations of the municipal housekeeping; they relate to the activities of the citizens to each other within a community. They are the building trades, the bakers, the butchers, the shoemakers, the candlestick makers, the doctors, the carpenters—all of those trades by which our common daily local intimate activities are regulated.

But there is another great group of industries that have distinctly an interstate value, and which relate to the welfare, not solely or necessarily, to that of the citizens within the State, but to the United States as a whole. What are the numbers engaged in those industries? The census of 1900 showed the following distribution of people employed in useful occupations. The figures are not yet available for the census of 1910, but the census of 1900 shows that there were in the agricultural pursuits 10,438,000; in manufacturing and mechanical pursuits 7,112,000; in domesticand personal service, 5,693,000; in trades and transportation, which largely means commerce and transportation, 4,778,000; and in professional service, 1,264,000.

The first two, agricultural and manufacturing and mechanical pursuits, were 60 per cent of the whole. The other three are of necessity 40 per cent of the whole. The producing of a food supply and the producing of commodities upon which the life of a nation actually depends are dependent upon the purpose of the first group. The distributive factors are the purpose of the second group. The first group comes definitely and clearly within the general-welfare clause of the Constitution; the second group often does, often does not. It is in a doubtful field, where it is often impossible to determine whether they are serving their own locality or serving the United States at large. Of course, there is not a sharp differentiation, because the first group could not exist without the second group, and you can not say that because Lynn is producing shoes that it only is serving the States at large, whereas the butcher and baker are serving the individual localities. There is not that sharp demarcation, and you can get at perhaps a better idea of proportion. It was shown here to be 60 and 40 per cent. I repeat by the distribution between pursuits, of the general theory of a debit and a credit basis, does it not almost naturally follow that each must for its own maintenance provide for the rest of the Union with about half what it produces, or it is going to fall into a debtor State. About one-half of all our activities do go toward activities which are common to us all and about half go toward activities which are local and personal. It is not possible to reduce that to exact figures, but I believe that statement is conservative and is reasonable, and is, in a way, substantiated by the actual distribution of employments as the census shows it.

You have then a total of some 30,000,000 people engaged in general occupations, and half of them are acknowledged to be of a general value to the State and the Union as a whole.

We have in children becoming 14 years of age every year, 1,800,000. I have obtained those figures from the Russell Sage Foundation, and I think they are correct. There might for the tenth, eleventh, and twelfth years come a slight falling off from the death rate, but it would not be very material, and we are pretty nearly within the truth to say that there are of children in the United States between

the ages of 14 and 18, four times 1,800,000, or approximately 7,200,000 children. Out of these 7,200,000 children I think we can see that at least 75 per cent of them must earn their living. I believe that 90 per cent of them are going to earn their living, but even assume that only 75 per cent of them are candidates for a useful occupation, that gives out of the 7,200,000, 5,400,000 children who are candidates for a useful occupation. We have assumed that 50 per cent of those came under the welfare clause of the Constitution, and 50 per cent of 5,400,000 is 2,700,000. How many of those could we aid? How many of these nearly 3,000,000 children could be brought within the influence of a valuable, useful training for life? How many of that 2,700,000?

Perhaps experience has made me overconservative, but I think that with the combined efforts of the United States and the individual States if we reach 25 per cent of those children in 10 years, we will have accomplished a wonderful achievement. Is that too conservative a statement? It is supposable that we can reach more than 50 per cent of those children within 10 years and give them some elements of a useful training for life? I thoroughly believe that we ought to do it, but even assuming that we can reach only 25 per cent of them, there are 800,000 within the United States to whom a very practical and useful training for life can be given within the next 10 years.

I believe further that it would almost follow of necessity that if the Federal Government, through its grants, stimulates the training of these 800,000 that the States must, from the very necessities of political pressure, take care of an equal number of the other half who are also earning their living, who are also in useful occupations; and that throws within your speculation another 800,000 who, if the State does something for the first group, political pressure must necessarily bring to bear there considering the other group, so that you have a possibility of taking care of 1,600,000 altogether, the Federal Government being only interested in the first group of 800,000.

Representative HUGHES. One million six hundred thousand a year?

Mr. CHENEY. At the end of 10 years, sir. Oh, they could not possibly get at that in one year.

What would be the cost, and what would be the return? It kind of makes me shrink to go at it in this way, because it seems as if I were valuing children in dollars and cents, and I am not. I was asked to demonstrate the economic necessity and I am doing it.

Representative FESS. That is exactly what we want.

Mr. CHENEY. I want to emphasize again that this is only one side of it, that the social necessity, intellectual necessity, and the physical necessity ought equally to be considered.

We now come to value children in dollars and cents. What does this mean? Eight hundred thousand children at an expense of $15 a year, on the part of the Federal Government, would mean an expenditure at the end of 10 years of $12,000,000. How would I arrive at the figure of $15 a year? I arrived at it this way. The expenditure for high-school children would approximate $45 a year in the United States, and the computation which I will make later will suggest that the Federal Government should pay between one-fourth and one-third of that. But assuming that our efforts for a practical training for life we expended $15 a year for every pupil of those 800,000, in

whom the Federal Government would have an interest, at the end of 10 years we would be expending $12,000,000. This $12,000,000 would mean an annual carrying interest charge at 4 per cent of $480,000. Let us make some comparisons. We will have expended when the Panama Canal is complete, $400,000,000. The annual carrying charge then of that, for interest alone, would be $16,000,000. Do very many of us have optimism to believe, if the Panama Canal more than takes care of its maintenance expenses out of its tolls, that the maximum has been reached; that the Government therefore is going to assume permanently that $16,000,000 a year as a carrying charge for the Panama Canal?

Representative FESS. In addition to that, Mr. Cheney, we have a perpetual unit of $250,000 a year to pay.

Mr. CHENEY. I am trying to be as conservative as possible in these statements. Assuming that you have got that $16,000,000 carrying charge, and that you are soberly and intelligently entering upon that cost for the purposes largely of national defense. It is not going to decrease our transportation charges very largely; it is not going to bring an increased food supply at a lower cost to our doors to any very great extent. We are soberly and intelligently facing the cost of the Panama Canal as a measure of national defense. If we are willing to assume a carrying charge of $16,000,000 for the national defense, how much are we willing to assume for the betterment of our children. Does $12,000,000 seem an insignificant sum in that comparison, or an extravagant sum? But you are comparing $16,000,000 as a carrying charge with the expense of $12,000,000, which was the total expense for one year, not with a carrying charge of $480,000. So that the comparison between the two is more exactly $16,000,000 as against $480,000.

Representative FESS. Mr. Cheney, you will be surprised, I presume, to know that they claim the operation and the garrisoning of the canal will cost $10,000,000 in addition to all this.

Mr. CHENEY. That only makes my statement so much stronger.

Consider a comparison as to the possible cost of the Mexican War, assuming we spent $1,000,000, that the war went on for five months—and, of course, that is only the beginning. We have got to finish up the job after the war is completed. We have a possible expenditure thereof $150,000,000, on which the carrying charge is $6,000,000, and we are not undertaking that to vindicate our dignity; we are undertaking it soberly and seriously to furnish a neighboring country with a better and a more stable form of government, and to bring them up to our standards and our ideals. Gentlemen, if it is worth while to assume a carrying charge of $6,000,000 to hold up a higher ideal before a neighboring country, is it worth while to assume a carrying charge of $480,000 to hold up a higher ideal of achievement before the children of this country?

Let us look at it in another way. We have all had some experience around this table with vocational education. What would be your various estimates as to the increase in earning power that a vocational education might give to a boy or girl? I am rather ashamed to put it at 10 cents a day. I believe that is a ridiculously low minimum. I believe that the difference between an absolutely unskilled boy out of the sixth grade, who has had no practical training for life, and the boy who has had a year's training or two year's, if possible,

in a practicable vocational school, is far more than 10 cents a day—is very much more nearly 75 cents.

Representative FESS. You mean the value of the product of the boy?

Mr. CHENEY. I tried to talk of it in terms of product, and it is too indefinite. Wages, somehow, are a definite thing to me.

As to how much more those two boys would produce, I could only say in the long run that would be measured by the wages the boy who was earning 10 cents a day would produce at least 10 cents a day more. I believe, in fact, he would produce 20 cents a day more, because of the product on labor that is only approximately half of it. But is that your experience—you who have had experience, Mr. Prosser, that a vocational education ought to increase the average earning power of these 800,000 children, whom we are talking about, 10 cents a day?

Mr. PROSSER. I think it is a very conservative estimate. The figures for the last two graduating classes at the Beverly Park Boys School at Beverly, Mass., indicate that boys at 17 going out from this Beverly Park Boys School to the shops of the United Shoe Machinery Co., were double the wages of the apprentices of the same age who left the school at 14 to go to work and were entirely without any education save the experience gained in the shop. Of course, that is an extreme case, but I think that 25 cents a day certainly, and probably 50 cents a day, on the average, represents increase wage due to training. You are certainly safe on the 10-cent estimate, it seems to me.

Mr. CHENEY. I tried to be excessively conservative, and I believe I have been. It is far more than 10 cents; but even assuming that it is 10 cents a day, and they are going to work 280 days a year, there is $28 a year. Now, $28 a year multiplied by 800,000 children is $22,400,000, and multiply that by 22 years of service, and you see that the value of that increased training, as measured by wages, is $448,000,000. Nobody will believe you when you state those figures, but where are they wrong? Where are they not absol tely conservative? Is there a flaw in that argument?

Mr. WINSLOW. Absolutely not, Mr. Cheney. The wages under the apprenticeship scheme of the Santa Fe Railroad would put your argument to shame.

Mr. CHENEY. Being absolutely and certainly conservative?

Mr. WINSLOW. Certainly.

Mr. CHENEY. But now, consider that we assume the States were going to take care of another 800,000, and you reach the sum of not $448,000,000, but $996,000,000 of increased earning power as the result of an expenditure on the part of the Federal Government of $12,000,000.

Representative FESS. That is not all. You are just putting that upon the basis of earnings, to say nothing about the joy the skilled worker would have over the bungler.

Mr. CHENEY. Nothing at all. I am simply measuring these children in dollars and cents, and I know it is all wrong.

Representative HUGHES. Mr. Cheney, I will state a little incident along that line which occurred down in my State recently. A man was building a house, and a farmer was hauling sand. The farmer was furnished his wagon and his horse, and he received $2 a day; the

brick mason received $5 a day. One was a skilled laborer and the other was a common farmer, with just his wagon and his mule, and shoveling dirt. It struck me with a good deal of force.

Mr. CHENEY. Let us look at it from another economic angle. I have tried to make an estimate of how much society invests as an organized whole in bringing a child from infancy to independence, in bringing a child up to the point where it depended upon its parents for nothing, which I would assume would be between 17 and 18 years of age, before it reached the period of complete independence. If you figure living expenses at a minimum, educational expense at $25 a year, all the police and Government expenses at the ratio that rules in Connecticut, you will find that society has invested in every child that reaches 18 years of age, $4,000; that is, that amount of money has been expended before that child becomes independent and begins to make an economic return to society.

I have taken the figure which the Russell Sage Foundation gave me of 1,800,000 becoming 14 years of age each year, and for the next four years I have made a deduction of 5 per cent death rate, which is probably excessive, and you reach the figure that there are becoming 18 years of age in each year in the United States 1,500,000. On those 1,500,000 children becoming 18 years of age every year society collectively has spent $4,000 apiece, which make the aggregate sum of $6,000,000,000 spent upon those children before, in an economic sense, they begin to make a return for society. Of course, they have returned infinitely more in love and service to their parents, but before they begin to make a return to society there is $6,000,000,000 spent upon them. Is it unnatural, is it extravagant to ask in order to make that expenditure of $6,000,000,000 a little more effective that you spend $12,000,000, or two-tenths of 1 per cent? I do not believe that many manufacturing concerns would hesitate very long on that proposition.

Looking at it from another angle, in expending this $4,000 in bringing a child to the condition of independence, he has perhaps an average earning power of $350 a year for the first year. That probably would be the average earning power for the first year. Three hundred and fifty dollars capitalized at 4 per cent means nine thousand dollars. If you spend $50 more, of which the Federal Government would contribute only $15, or $4,050, you certainly would get an earning power of $400 a year, which means ten thousand dollars capitalized. There is another proposition that no productive concern could hesitate about for a minute.

However, so much for the economic necessity for Federal aid.

There are other general considerations of an economic nature. The first is the point of view of the trend of labor conditions. As I see the labor conditions, the things that make for unrest, the things that make for the greatest difficulty in the labor market, are the large numbers who are in the unskilled employments, particularly the large numbers who have been in the unskilled employments and are becoming 30 years of age, and realize that their service is in less and less demand for every year they are at it.

Taken collectively, as a whole, it seems to me that is the saddest fact in our industrial conditions. The great body in unskilled employment reach their highest wage when they are in the most vigorous strength of from 20 to 24 years, and by the time they are 30 years

old begin to go down and fall off and be constantly pushed further and further down. There is not any help for that. There is not any solution of it that I can see that is possible, with the exception of training those men so that they have a resource besides their brute force and physical strength.

The second point of view is in the increased cost of living. We talk constantly about the increased cost of living. We do not even know the factors that enter into it, but there are two unmistakable factors: The amount of food that is available and the amount of wages to pay for it. The shortening of hours is aiding the wages, all of the aids that go to make life more worth living, and increase our general happiness undoubtedly increase the cost of living; but the two most definite things that are within our control are the amount of food that can be supplied and the wages that can be earned to pay for that food. If the Federal Government, as an initiative, devotes itself to stimulating an education in the producing of food products, and in stimulating the skill in producing commodities which can be transferred into wages, you have an immediate tangible, concrete effect upon the cost of living, which is not theoretical, but appeals to every man's sense of his daily living experience.

There is another point of view, that if we are to maintain our agricultural and our industrial supremacy we must have a high grade of skill; we must have the ability to produce more articles of a higher standard, and I believe that the time is coming and is now definitely felt by all producers that quality counts pretty nearly as much as quantity in the balance sheet at the end of the year; and if the United States is to maintain its position as an industrial factor in the world, that supremacy will depend more than anything else upon the number of its skilled workers and its ability to produce a larger quantity of the highest quality possible.

What are the measures of the amount of Federal aid and the method of arriving at it? The minimum proportion which the State should receive of a total of the appropriations should be based upon the ratio which the numbers engaged in agriculture, and, second, the numbers engaged in the trades and industries in such States bear to the total employed in the useful occupations in the United States.

This matter has been debated back and forth with a great deal of thoroughness; various measures have been suggested. Is there anything as definite or as just in determining the ratio which each State may receive of the whole as the ratio which the numbers acquired in the useful occupations in those States bear to the number of those occupations as a whole in the United States? It seems obviously the fairest, the most definite, and the most easily obtainable.

Within the above maximum of distribution within the State, the amount, I believe, should not exceed one-half the amount spent in the salaries alone of instructors in the practice of a useful occupation and in the theory directly related to it; that is, that limits the amount which the State, after receiving its pro rata amount, could distribute to any school to one-half of the amount spent for instruction, teaching salaries only, in the practice of a trade, or in the theory directly related to that practice.

This makes for three factors: First, simplicity; it is definite; it is easy of enforcement. Second, it emphasizes the real purpose of the grant and its dependence upon the character of the instruction.

All of you who have had anything to do with schools know that a school is 90 per cent teaching, and if you can make your whole grant upon the basis of teaching you are pointing to a most definite factor in its success. Insist upon a high grade of teaching, and you have thereby a definite measure of achievement. Third, this is in accordance with the practice in many States. I think that almost all State grants, at least in the East, are contributed upon the basis of salary.

What would be the ratio of the total expense to this one-half of the salaries? Excluding rent and interest on indebtedness, cost of permanent improvement and repairs, the expenses of maintaining vocational schools are approximately 80 per cent salaries and 20 per cent other expenses. This was based on Connecticut experience. Of that 80 per cent of salaries, three-fourths, on an average, would be spent for instruction in the practice and theory directly relating to a trade—that is, four-fifths of 80 per cent leaves 66⅔ per cent, or the ratio of the current expenses on an average devoted to actual instruction in the practice or in the theory directly related to a trade. If the National Government paid not to exceed one-half of this, it would approximate one-third of the cost of current expenses, and possibly to one-fourth of the total expenses, including rent, interest, and permanent improvements; that is, the proposal would be that in the rough average the Federal Government should pay not over a quarter expenses to be incurred on account of vocational schools coming within the grant.

I believe that Federal grants should be distributed in the form of a reimbursement of expenses already incurred and certified to; never as advances preceding actual payment. Federal grants should be only made on the receipt of a certificate of compliance with conditions specified in the statutes, and I have endeavored to very roughly and briefly sketch the conditions as it would seem to me. And here I am expressing my own private opinion and not the opinion of the National Society, because I believe we have never gotten down to those exact details, and these are the conditions enforced in Connecticut: First, that moneys must be spent for instruction of children over 14 years of age; second, of those actually engaged in industry and in agriculture or in the making of a product of industry under as rigid specifications as the standards of quality as exist under competitive conditions.

Here I regret I must take issue with what I believe to have been the trend of Mr. Prosser's thought. If I understand him, he would exclude the all-day trade school, while he would admit the part-time cooperative schools. The all-day trade school does not do anything but transfer the cooperative system to State supervision, and why, in the name of goodness, should you permit cooperation with private employers and not permit cooperation with the State employers?

Mr. PROSSER. May I answer him upon that point, Mr. Chairman? I would not. I thoroughly believe in the all-day and industrial trade schools as much as you do, but I have never been able to see how it is possible for the National Government to standardize the work of the day school in such a way as to make either sound legislation possible or enforceable after it was passed; in other words, the conditions in this country are such that there is no agreement of mind between Arizona and Maine as to what should be done in a school when it is an all-day school for children between 14 and 16 years of

age. You are as well aware, Mr. Cheney, as I am of the great bitterness there is to-day in this country over the whole question of the all-day school, what it should teach, and how it should teach.

The proposition to standardize the day school such as Miss Gill suggested, and which you suggested in other and more general terms, is one that you could not pass successfully through Congress. I am much more interested to-day in getting legislation passed that is sound, as far as it goes, than I am in the attempt to vindicate a particular theory with regard to the all-day school, much as I believe in your theory and my own in regard to it. If you can suggest a way by which you can draw a measure with regard to the all-day school which will be acceptable by the States I should be very glad to vote for it, but I have never been able to do so. I think Miss Nester, across the table from you, will bear out my statement, that there are literally groups of Middle-West States who believe in the cosmopolitan high school who would never agree one minute to vote in Congress for such standards for the all-day industrial trade school as you have suggested.

Mr. CHENEY. Mr. Prosser, I think you have misunderstood the suggestion of standardization. I think you get into an absolute waste of moneys if you attempted to define your schools by their name. If you attempt to say that these grants shall be made to part-time schools or cooperative schools or evening schools, or continuation schools, you can conceive an infinite number of sins under those names, and I am afraid I did not catch the idea of the standardizing of the industries. Those conditions must be broad enough not to attempt to fix the degree of skill, or rather the qualifications of the processes, and the degrees of skill that go into that product.

Mr. PROSSER. Let me put the question this way: Suppose that this commission were to recommend a statute to Congress which should provide that national grants should go to State boards of control, to be disbursed to schemes of training within the State, either for workers already employed in commercial establishments or for workers attending schools having shops attached, where commercial conditions were met, and those commercial conditions consisted among other things of requirements for a certain definite number of hours of shop work; suppose nothing was said about the all-day school at all, nothing about the part-time schools, nothing about the evening schools. It takes only an act of the mind to immediately translate the requirement into the proposition that what we are insisting upon is only one single type of all-day school, if used, that would possibly meet conditions, and immediately——

Mr. CHENEY. Pardon me, Mr. Prosser——

Mr. PROSSER. But there are States all over this United States that have already written into their legislation a different conception of the all-day school from the one that you suggest. Representatives in Congress would not vote for such a measure.

Mr. CHENEY. I must have given a very mistaken expression, because I certainly would not tie up for all-day and neither would this standard commit you to an all-day school; it would tie you with any school that conformed not with the name but with the conditions. You can spend your Federal money for given types of schools that come within the conditions for teaching children over 14 years of age who are already in industry, or if not in industry are engaged in the

practice of trade under conditions that are comparable with competitive conditions, who are taught by instructors who have had actual experience in the trades they are pursuing.

Now, Connecticut goes even further than that, and insists that they must be—gets around the difficulty that you have here—either in industry or in a school, or any combination of both, 48 weeks in a year, 44 hours in a week. That permits, without the slightest difficulty, your cooperative school, your part-time school, your all-day school; and there is not any suggestion or any possibility of setting out any one of them. It only insists that it must be a recognized effort for those who are in industry, and it insists as a guaranty that they must be actually in industry, or if they are in all-day school they must be working under conditions that are measurable with those conditions.

Mr. PROSSER. There is just one thing, Mr. Cheney, that you probably do not take into consideration, and that is this: You might put that in the law in that shape, but it would result in this: It would be foreseen before the bill was ever passed. Connecticut, we will say, for example, might meet the conditions of that act, because it is in line with Connecticut's belief, as expressed in the practice of its State board of education; Indiana would not, Illinois would not, Ohio would not, Iowa would not. But what would happen which would make the States opposed to the proposition would be that Connecticut would be drawing national money for a type of all-day school——

Mr. CHENEY (interposing). Pardon me, Mr. Prosser; that is not fair, because I have set up a definition that admits every type of school, by conforming to certain conditions.

Mr. PROSSER. I am not, Mr. Cheney, trying to be unfair to you. I am merely saying that Connecticut would operate a school—I will not call it an all-day school—of a kind for which it would receive national money, when these other States, not believing in that school, would be prevented from receiving national money.

Mr. CHENEY. They can run their all-day school.

Mr. PROSSER. That would not conform to the Government requirements on that point.

Mr. CHENEY. They can conform for their children over 14 years of age and already engaged in industry, and they are in part-time school and are taught by instructors in the practice of the trade who have had experience in that trade. Those are the only conditions.

Mr. PROSSER. But your definition—I may be totally confused, Mr. Cheney, and if I am I am ready to withdraw all of my remarks—as I understand, clearly admits of the possibility of national grants to a school of the type of the Connecticut trades schools.

Mr. CHENEY. Certainly it does, just as it would to the Fitchburg cooperative school.

Mr. PROSSER. But would not permit of giving grants to the type of cosmopolitan high school contemplated in Illinois.

Mr. CHENEY. In Illinois those children are in industry.

Mr. PROSSER. Let me make my point, which is this: That being the case, Connecticut would secure national grants for the benefit of children who had not yet gone to work; Illinois would not secure such national grants, and therefore would not vote for such a law. That is the only point in mind.

Mr. CHENEY. I think the answer to that, Mr. Prosser, is that the grant to the cosmopolitan high schools would be wasted, as far as any effective vocational education was accomplished.

Mr. PROSSER. The point with us is this: We do not object—all of us are in favor, as I understand, of the all-day industrial and trade schools. Some of us have difficulty in seeing any way that you could standardize any particular form of training in the all-day school, in view of the wide difference of opinion among the States. You would object to the spending of money in the cosmopolitan high school, and others would object to spending money in any other way than cosmopolitan high schools. That is the task.

Mr. CHENEY. I am coming to my personal solution of that task.

Mr. PROSSER. All right.

Mr. WINSLOW. Mr. Cheney, I would like to say just now, for the benefit of the record, that ought not to be misconstrued to mean that the Fitchburg school gets such grants, because it does not.

Miss NESTOR. I was going to ask about that.

Mr. CHENEY. They would come in for Federal grants if they were.

Mr. WINSLOW. I did not want the idea confused that they do get such grants, because they are entirely outside of the State grants.

Mr. CHENEY. I see your point. The conditions which I have enumerated are: Children must be over 14 years and must be actually in industry, or under conditions similar to industry; they must be taught by instructors, as regards the practice of the trade, who have had actual experience of not less than two or three years; they must have had actual experience in the trade. The idea of expending money for teaching the practice of the trade by academic school teachers is absolutely foolish. If Federal grants are going into that, you had certainly better not make any grants at all. No Federal grants should be made before the presentation of a plan by the State and its approval by some Federal jury. This was a condition that Miss Gill stated very forcibly.

As regards the aims underlying these Federal aids, Miss Gill has been over them so thoroughly that perhaps it is not necessary for me to reply. They should relate to stimulation and supervision of moneys from the Federal grant. They should require statistical study of the work that is going on; they should aim to equalize the cost as well as the opportunity between the various States in the Union, and they should set up an ideal of authority upon vocational education that now often leads to miscarriage. Wherever you start to create a public sentiment for vocational education, you often run into a clash. That clash may be between employers or employees; it may be between two groups of labor unions; it may be between the school teachers and the employers; and there is nobody who can speak with authority and nobody can set up a plan that can say, "This is a fair and an honest plan and deserves your worthy consideration; and I believe that Federal aid could accomplish much in those respects."

I am afraid I have confused what I meant to present for the National Society with what I meant as my own personal opinion, and the National Society will have to excuse me if I finish with my own personal opinion.

If there is any chance of these grants going to existing academic or cultural schools, do not spend it. If you are going to give these

grants to existing cultural high schools, do not do it. You will not promote industrial education. You will relieve the States of a burden which they are already bearing with fair success. If you find it is not possible to insist upon the conditions that will prevent a waste of those grants, I would say emphatically do not make them. If you can not enforce the conditions that the moneys must be spent for children over 14 years of age who are already in industry and under instructors who have had experience in the trade, and upon a commercial product or something that is equivalent, do not make those grants, because they will be ineffectual. They will simply result in a weak type of manual training, and you have got the work all to do over again and the argument all to work out.

If you can not insist upon your conditions, perhaps with aggravating conservatism—it may seem aggravating to you—I insist do not make them.

Miss NESTOR. Mr. Cheney, you said in the beginning they should be separate. To what extent do you think they ought to be separate?

Mr. CHENEY. I beg pardon.

Miss NESTOR. You began your statement by saying that the general and cultural training and the industrial training should be in separate schools. To what extent would you want them to be separate?

Mr. CHENEY. I would want them to be under entirely separate instructors. You may conduct them in the same building, but most of the miscarriages of vocational training have come through the mixing of cultural and academic training. I think this commission feels very strongly we have to have trade teachers to teach the trades. It may not be necessary to have separate buildings.

Miss NESTOR. I was anxious to know to what extent you wanted to have them separate.

Mr. CHENEY. Does that answer the question?

Miss NESTOR. Yes.

Mr. LAPP. How about separate administration? Would you have them under the city superintendent?

Mr. CHENEY. I would not for the present.

Mr. LAPP. Would you have them under the present boards of education?

Mr. CHENEY. I certainly would have them under the present boards, where these boards are well organized and efficient. If there are no boards, you will have to organize special boards for that purpose; but there, again, was the experiment in Wisconsin, where they organized different boards and threw the matter over into the hands of the superintendent of schools. So that while they had dual boards, the executive management was in the hands of the superintendent of schools.

Mr. PROSSER. And more strongly so than in the regular public-school system.

Mr. CHENEY. More strongly; and you came into a ridiculous situation, where you had created a dual system, and then said to the school superintendent, "Go ahead and do just as you please."

Miss MARSHALL. I am not sure that I understood the conflict between Mr. Cheney and Mr. Prosser about the all-day school, but I would like to ask why it is not as reasonable to suppose that the

States should differ over the all-day schools than that they should differ over the part-time school.

Mr. PROSSER. I think that is easily answered: When we have one problem to deal with in part-time and evening instruction, you have a dozen with the all-day schools.

Miss MARSHALL. If the Federal Government sets up a standard for what an all-day school shall be, I do not see why any State should not conform to those conditions if it wants the Federal money. Otherwise, it could take its money for the development of part-time schools. I do not see why it could not have just as much Federal money, but more of it to part-time schools and less to all day.

Mr. CHENEY. I think we all have an interest in this problem and talk a great deal about it, because we think it is going to get the child out of dead end into one of employment, absolutely unskilled employment. Now, you are never going to get the child out of dead-end employment through a continuation school or evening school. Why? Because they have got to have a school to start with; they have got to get a job to see the possibilities of a further job. Your continuation schools and part-time schools will always fail on abolishing the dead-end employments, unless you can get children where you can give them the employment out of school that makes them valuable. When a child has got into industry and has a position, then you can take them into part-time school and help them from one step to another.

Miss MARSHALL. I do not think all of us are thinking of it in that way, because I could not quite agree that the part-time school might not take the child from dead-end employment and open greater opportunities. I believe if the child went into unskilled employment and then had a chance for further education, he might step from low-grade skill to a higher-grade skill, just because of better training and general intelligence.

Mr. CHENEY. I am afraid he never would. I think you would undoubtedly find individual cases, but that would be rather the exception.

Miss MARSHALL. If they did not do that, it would seem to me almost impossible for us to feel that a boy without a training could ever succeed, and certainly we have many boys who advance from the unskilled to skilled workers.

Mr. CHENEY. Who get a start.

Miss MARSHALL. Started in unskilled positions. We certainly see some of them win their way without education, and therefore with education I can not see why we could not hope for a great deal more.

Mr. PROSSER. I would like to add to Mr. Cheney's argument: The trend of child-labor legislation in this country makes it absolutely certain that within the next 5 or 10 years in some of the States we are to have compulsory attendance for practically all children under 16. The very pertinent question arises, what are we going to do with those children from 14 to 16 years of age when they are thrown back onto the schools? Personally I am opposed to child-labor legislation that does not take into consideration the schooling these children ought to have. When taken away from the shops and factories and given back to the schools for further training they need the all-day vocational school, because that is the type of school which will interest and benefit them. We are going to have an extensive development of the all-day industrial school as the result of child labor and compul-

sory school attendance legislation; but that is a question separate and apart from the responsibility resting on this commission of recommending grants to the States to be spent in the all-day school. I am ready to vote and would be glad to do it for any bill which will absolutely safeguard that money, so as not to spend it in costly high schools for a little dab of manual work under the name of industrial education; but I have never been able to see how it could be done.

Miss NESTOR. I do not think any of us would want to see it used for just a dab of manual training, as you say. What we want is thorough training.

Mr. CHENEY. Do we not get into a great many of these disagreements as to legislation in attempting to define types of schools? It seems to me we ought to drop the attempt to define type of school, but define the general conditions under which all schools must exist, that we may get by some of the difficulties that Mr. Prosser has suggested. If we can not get by them, I would not have any Federal grant.

Mr. WINSLOW. Thank you, Mr. Cheney, very much.

STATEMENT OF MR. CHARLES R. RICHARDS, DIRECTOR OF COOPER UNION, NEW YORK CITY, REPRESENTING THE NATIONAL ASSOCIATION FOR THE PROMOTION OF INDUSTRIAL EDUCATION.

Mr. RICHARDS. Speaking to question 5 of the list submitted by the commission, in answer to this question I would say that, in the judgment of the board of managers of the National Society for the Promotion of Industrial Education, there is a most important service that can be performed by these bureaus and departments in developing the data needed for constructive programs for vocational education.

There is a great and pressing need for an analysis of our industries as the first step in forwarding an intelligent program for the training of the workers. We need an intensive study of the work and of the requirements of the work of the wage earners in the specific occupations of each industry. Not until this has been done will it be possible for us to know, in any accurate or comprehensive way, either the kind of training which any group of workers should have or how it can best be given.

As a Nation we are singularly lacking in this kind of information. In European countries much advantage has been gained in establishing schemes of industrial education, because our neighbors across the waters are already in possession of this knowledge. They have been studying their industries and gathering such data for over half a century, and, furthermore, have been collecting it as a great national asset and service.

As we all know, in this country we have done much to help the farmer through information which has been gathered and disseminated at large expense by the National Department of Agriculture. We now furnish all kinds of knowledge to aid the farmer in meeting his problems. There is nothing that the United States Government can do for our industries so nearly akin to this as the analysis of the work performed by our wage earners to serve as the first step in a comprehensive plan of training which shall afford them an opportunity of securing better preparation for their tasks. It is just as necessary that the Government should analyze and furnish information concerning the needs and problems involved in the better preparation of human labor in industry as it is that it should furnish information

concerning soil fertility, fertilizers, pests, insects, and best methods of farm organization to the farmers.

What is needed is—

First, to diagram or analyze the industries into their branches or occupations.

Second, then to ascertain what the worker in each of these occupations needs in the way of skill on the one hand and knowledge on the other.

Third, then how far this skill and knowledge can be obtained in regular work at this occupation.

Fourth, what use is made of apprenticeship, cooperation, and working agreement in the training of workers.

Fifth, what does the industry fail to give in the way of skill and knowledge that the worker needs for thorough efficiency? This makes it possible to answer the question:

Sixth, what can the school do in this connection?

There are many other questions that need to be answered, such as the following:

What is the preferred age for beginners in this occupation?

What are the lower and upper limits of the occupation as to the age of the workers?

What are the lower and upper limits as to the wage received?

What are the sources of supply of workers in the occupation?

What are the physical requirements of the worker, such as strength, endurance, quickness, deftness, fineness of eyesight, accuracy?

How long does it usually take to train the worker for this occupation?

What is the next occupation? Is it in line of promotion from the one now held by the worker? How far does the work of his present occupation prepare him to meet the requirements of the new occupation?

In our judgment the United States Bureau of Labor Statistics furnishes the one means through which this knowledge concerning the industries can be gathered most effectively and be made available for use by educators and practical men throughout the country.

It is not possible to rely upon individual employers for this information. Individuals have had little or no experience in dealing with such a problem in the large; and they would, of course, be inclined to look at it only from the standpoint of their own limited interest and outlook. Furthermore, to attempt the work in this way would result only in a piecemeal job. Each manufacturer would naturally find out things for his own use which might be of benefit to anyone else, thus requiring much duplication of effort. Even if his work were well done, there would be no opportunity for the checking and comparative analysis of the results. Furthermore, there could not be the widespread publicity necessary to make such results available to everybody having the same questions to face.

Neither could the task be adequately accomplished through national organizations of employers. Such organizations have had no experience in doing this work. There are, comparatively speaking, few great national organizations of employers who are equipped to undertake such a task. The present interests of many employers would not lead them to take the time and the money necessary. There are some grave differences between employers and employees about certain matters in industrial training. These differences would very

likely prove a handicap upon either the great national labor organization or the great national association of employers of any line of industry in handling this matter.

This method of getting the information through special interests will require a long time, even if it could be successfully accomplished in the end. It would mean piecemeal and irregular studies with varying schemes, and the absence not only of a country-wide and unbiased point of view and method of approach but of the publicity which would be of the greatest benefit to all concerned.

The States can not deal individually with this matter in effective fashion. No State is adequately equipped to handle it; no State has had any experience with this kind of investigation; no State could possibly have the necessary nation-wide point of view. A study of this kind by States would be open to practically all the objections given above, in the case of the individual manufacturer and of an association of manufacturers.

The work must be done by the National Government. The training of our workers is a national question. It requires a national outlook to approach it properly. The National Government is the one unbiased agency for the task, and the only one capable of making a study which will be of benefit everywhere. The one agency of the National Government which can do the work effectively is the United States Bureau of Labor Statistics. Strong evidence of this assertion is found in the fact that within the last 25 years three very comprehensive investigations and reports upon industrial education have been made by this bureau; one in 1892, one in 1902, and one in 1910.

The Bureau of Labor Statistics has agents constantly in the field, who, by reason of training and experience, are equipped to undertake studies of this kind. They are the only people in any Government bureau who have had any experience with it. It is difficult for the bureau to keep the men in its employ who are acquainted with this subject at work on other subjects, because of the desire on the part of States and municipalities for their services in outlining surveys or advising with reference to the undertaking of schemes of industrial education.

By their frequent, intimate contacts with various industries, these special agents of the bureau, have learned the conditions under which persons work, the requirements upon them and their needs from the standpoint of industrial education—an asset which it would require another group of men a long time to secure. They are familiar with the atmosphere of industrial establishments, and understand the methods necessary to obtain accurate returns. Furthermore, there are practically no other men available for this purpose. The attempts of the laymen or of schoolmen to deal with this question, have, to say the least, held out little promise of help from this source, and in many cases have been accompanied by a waste of time and money.

Furthermore, these agents of the bureau have secured the confidence of both employers and employees, which, perhaps most important of all, gives them ready access to plants, wage schedules, and even to confidential information, so that they not only know the sources of data, but can more readily obtain it. On the other hand, because of the inquiries of past years, they have received the confidence of private as well as public authorities.

The need of this information is immediate and urgent. The Bureau of Labor Statistics is equipped to do the work and stands ready to undertake it.

As to the method of attacking the problem through the Bureau of Labor Statistics: A few of the most important industries of the country, from the standpoint of the number of persons employed, should be chosen at the outset for investigations. The study to be made should be recognized as a progressive one, working from industry to industry and from year to year, so as finally to cover at least all of the industries of the country which are of considerable size and which are distributed over a large area.

Such industries as those given below suggest themselves as being suitable fields for investigation at the start, since they represent the seven largest lines of employment in the United States:

	Establishments.	Number of workers.
Census 1900.		
Building trades, including carpenters and joiners, masons, brick and stone; plumbers; gas and steam fitters; painters and glaziers; plasterers, roofers and slaters; paper hangers and decorators	.....	1,197,373
Census 1910.		
Mining, including anthracite and bituminous coal, metals of all kinds	9,573	975,800
Textiles, including cotton goods, hosiery, and knit goods, woolen and worsteds, silk and silk goods	4,535	775,914
Machine building (foundry and machine-shop products)	13,254	531,011
Clothing, men's and women's	10,912	393,439
Printing and publishing	31,445	258,434
Boots and shoes, including cut stock and findings	1,918	198,297

Localities and plants must be selected. In studying any one of the above industries it will, of course, be impossible to deal with every establishment and every locality where the work is carried on. It would be necessary to select typical localities and typical establishments in those localities. The method of sampling would have to be used, the industries being studied in two or three typical centers presenting diversified conditions. As, for example, in the case of the printing business, New York City and Cambridge, Mass.; in the shoe industry, some one or more centers in Massachusetts and in Missouri; in textiles, a city of representative conditions in the South and a similar one in New England; in the case of garment making, New York, Chicago, and Cleveland.

An estimate of cost: It will, of course, be absolutely impossible to state the exact amount which will be required to make such an analysis of an industry as is herein proposed. The minimum for each industry should not be less than $50,000. For the first year's work the bureau should undertake the investigation of at least two industries, which would require an appropriation at the hands of Congress of $100,000 for the year.

I have spoken of the possible service of the Bureau of Labor Statistics in this connection. The same reasons apply, I should judge, with equal force to the possibilities of the Department of Agriculture in gathering like data for agricultural occupations, and to the Department of Commerce for those engaged in trade and transportation.

In this connection it seems to me that the Bureau of Education should play the part of interpreter. That is, the Bureau of Educa-

tion should take the data secured by the Bureau of Labor Statistics, the Department of Agriculture, and the Department of Commerce and convert or translate it into school terms—should, in other words, develop from this data the proper type of school to meet the conditions set forth; should plan courses of study and indicate methods to be pursued.

To be fitted for this work, it is evident that the Bureau of Education should be equipped with a force of experts thoroughly conversant, through training and experience, with the practical problems of vocational education from the standpoint of both school administration and school methods, and who would be capable of weighing conditions with accuracy and developing sound constructive measures. The Bureau of Education, thus equipped, if supplied with accurate detailed data as outlined above, should not only be able through its publications to present to the country model plans for vocational education, but should be able to act in an advisory capacity for States and local communities requiring aid and guidance.

There is apparently another function that the Bureau of Education might play on the administrative side, provided any measure of Federal aid is passed by Congress. In this connection this bureau would seem to be the natural agency for the formulation of standards, for passing upon plans developed by the States, for claims for disbursement, and for any measure of supervision required.

This is a side of the question that the society have not gone into, but we should be glad to submit a brief upon this matter if the commission so desire.

Representative FESS. I think that would be wise.

Mr. PROSSER. Would you favor a Federal authority at Washington, made up solely of the Bureau of Education in the administration of a statute, or would you favor a national board of control or national administrative authority made up of representatives of different Federal bureaus and departments?

Mr. RICHARDS. As far as my thought has gone, it seems to me that a board consisting of the departments linked together in some way might be the most effective measure.

Representative HUGHES. Well, Mr. Richards, it seems to me there is one thing upon which Mr. Fess will thoroughly agree with me, and that is that no bill can be passed through the House that will affect the autonomy of the States. Do you think I am right, Doctor?

Representative FESS. Yes; almost everything that would be done in the way of applying money spent by the Federal Government in a State would have to be under the control of the State. I think we could reserve something like the power of inspection.

Representative HUGHES. Oh, yes.

Mr. RICHARDS. Were you thinking of anything I brought up?

Representative HUGHES. No, sir; I was not referring to anything you brought up there.

Mr. RICHARDS. May I ask, Mr. Chairman, does that seem to prevent, in the minds of the commission, any possibility of erecting standards for the payment of these moneys?

Mr. WINSLOW. The chair does not believe that it is going to be an impediment in the erection of standards. The suggestion you make that heads of departments should set up standards for the different State governments to observe seems to some of us the way out.

Mr. RICHARDS. Of course, that reference in my remarks was only incidental. I was not intending to make that a constructive part of this presentation, but simply as a reference to the fact that if in this particular question—No. 5—you desired that the national society attempt any presentation upon the relationship of these bureaus as far as they are related to any administrative problem, we should be very glad to attempt such a presentation but we have not yet made it.

Mr. WINSLOW. I think the commission will be very glad to have the national society attempt to point the way, and the formulation of any plan you have in mind or that may occur to you will be received with great pleasure.

Mr. RICHARDS. The first question, as you see, that has presented itself to us is how the present bureaus and departments in Washington may be of immediate service in this matter of industrial education through developing the data that are so absolutely essential.

Representative HUGHES. Mr. Chairman, this certainly has been a most entertaining evening.

Representative FESS. I would like to say that from my standpoint, from the standpoint of the cultural side of education, these hearings to-night have been exceedingly illuminating. My only concern is whether we can secure the passage of a measure through the House. I have not much fear for the Senate, but in the House, if it must be confined to the industrial side, it would really not apply to a great number of districts represented in Congress and therefore would not get those votes. That is our difficulty.

Mr. PROSSER. I should like to ask both Prof. Richards and Mr. Cheney whether in coming here they came to lay the emphasis on the industrial education side, not because they oppose Federal aid for agricultural education but because they feel that that side had been presented at previous hearings, and whether the National Society has not always favored the idea of agricultural education as well as industrial education?

Mr. CHENEY. Mr. Chairman, I thought I made it clear that I very definitely favored grants for agricultural education. If I did not emphasize that it was because I felt positively sure they would be made.

Representative FESS. I think, Mr. Cheney, that your argument—and this is not intended to reflect upon anyone else who has appeared before the Commission—will be a telling argument in the House when we put it upon the economic basis.

Representative HUGHES. There is no doubt of that.

Mr. CHENEY. It is really the least important, it seems to me.

Representative FESS. I know—I do not mean it is the least important, but it is the element that the average Congressman is looking to and wants to see made a part of it. You put it in a way that will appeal wonderfully to the average man in the House.

Representative HUGHES. Mr. Cheney put it in the business way that will be attractive to the House.

Mr. WINSLOW. I think it is fair to say that his argument could be used by the Members of the House as urging an appropriation because of the investment.

Representative FESS. Yes; that is the idea.

Mr. WINSLOW. If there is no objection the meeting stands adjourned. I want to express the appreciation of the Commission to Miss Gill, Mr. Cheney, and Mr. Richards.

(Whereupon, at 11 o'clock p. m., the Commission stood adjourned.)

SECTION III.

STATEMENTS SUBMITTED BY LETTER.

SECTION III.—STATEMENTS SUBMITTED BY LETTER.

STATEMENT OF HERBERT H. RICE, PRESIDENT NATIONAL METAL TRADES ASSOCIATION, APRIL 23, 1914.

Answering your list of questions, we beg to reply as follows:

1. The need for vocational education in the United States is very great. The future industrial efficiency of our Nation and the welfare of its workers can be tremendously advanced by a thorough system of vocational training.

2. The Federal Government should assist in every possible way in formulating a plan of vocational education, but at this time at least we do not think it desirable for the Government to give direct financial aid to individual schools.

3. All kinds and forms of vocational education should be established in time. The National Government, through expert investigation, should point out the way for all forms of vocational education.

4. We are not prepared to make specific replies to your questions numbered 4, 5, and 6, respectively, but beg to submit for your most careful consideration the following:

The necessity for vocational education is admitted by all who have studied the question. Various forms of vocational education are being tried out all over this country with more or less success, but the great present need is to crystallize the best thought on this subject into a definite and practical plan. Therefore we strongly urge that your recommendation should be for the appointment of a commission of experts composed of from 9 to 12 members for the purpose of devising and preparing such a plan.

An appropriation of $100,000 would secure the services for a period of six months of the best men in this country who are thoroughly familiar with this subject and devoted to its solution. It is our opinion that such a commission would save millions of dollars, not only to the National Government but to the States and communities throughout the land, by directing into right channels all endeavor for the promotion of industrial education.

Later, as a result of such reports, the United States Bureau of Education might have a department ready to aid with authoritative surveys of States and particular localities. These surveys should be so localized that recommendations should be made as to the various forms of vocational education possible in the communities, and information given as to how other communities have handled similar problems and with what success. They should give standard and approved curricula. They should point out to the manufacturers and the public the direct financial returns to the community, and especially should show to the manufacturer that his immediate and direct returns will repay any cooperation he may give to part time or continuation schools.

STATEMENT BY EUGENE DAVENPORT, DIRECTOR COLLEGE OF AGRICULTURE, UNIVERSITY OF ILLINOIS, MAY 2, 1914.

VOCATIONAL EDUCATION.

The original purpose of colleges was to give vocational training in theology, law, and medicine, and for the most part colleges are still considered as primarily vocational schools. It is only recently that we have heard it advocated by certain teachers and by gentlemen of the leisure class that college courses are designed for culture. Historically and practically the college course is designed primarily to fit for careers more or less specific. Even those that are professedly designed to give a liberal education are in fact preparing for the teaching profession, for the literary profession, for analytical chemists, etc. It would not be too much to say that the present-day colleges, like those of the past, are professional schools, and the proof of it is that a man chooses his college according to the career he expects to follow.

At the other extreme was the original elementary school designed to teach the mass, first to read the Bible, and later on to write and to compute. Historically and philosophically, elementary education is synonomous with the three R's.

Between the two have grown up various intermediate classes of schools: First, the old-time seminaries, which designed to fit for a special college and not to attract students excepting as they were preparing for college careers. Second, the private school of various sorts and grades designed and conducted not as preparing for college, but as finishing schools, those for girls teaching polite branches, and those for boys inclined to the trades, for we do not yet possess a very large number of the leisure class. Third, the great system of public high schools intermediate between the elementary classes and the college; and the question of all questions is, What shall these be?

It is evident that these high schools should be something more than preparatory schools for college, because they are designed for all the children of all the people, and because theoretically and actually for the best of reasons both educational, philosophic, and economic, only a small portion of the children entering the public high school will ever see a college.

It is therefore manifestly improper that these schools should be operated simply as schools preparatory to college. If they are to serve their purpose as great educational institutions for the people, they must function, to some extent at least, vocationally or they will fail of their purpose and do more damage than good. This I believe for the following reasons:

First, if a child spends only so much time in school as is necessary for the three R's, he is not for this reason withdrawn from active life. He continues as in the primitive state and learns to do by doing. He picks up the vocation of his neighborhood by helping his parents and other adults in daily tasks. But if he is kept eight years in the grades and from two to four years in the high school, he is removed from the home for a period extending from 6 to 12 years, at the end of which time he has reached the period of adolescence without the experience and the knowledge of labor that he would have had if his education had not extended beyond the three R's.

Second. In the meantime, he has had no experience in earning, but he has had much experience in spending money. He is therefore inexperienced so far as economic life is concerned, and if he is now thrown out into the world he is more helpless in the matter of meeting his common everyday needs than he would have been without his education.

Third. The above would be true in any event. What is also true is that in mos. cases the child has acquired some artificial views of life and perhaps exalted ideas of living without having acquired correspondingly the means of supplying these desires His attention has been called during the schooling process, not to normal men and normal things, but to exceptional men and to notable events in the world's history. He has been kept in an abnormal atmosphere away from real things, and then is expected to go out from school and succeed better than he would have succeeded without the education. It is not strange, all things considered, that so many of our young people fall by the wayside and after trying successively a large number of odd jobs, drop permanently into the ranks of unskilled labor; but it is a sad commentary on universal education that still some 10 per cent of our laboring people are classified as unskilled, though very few of them are illiterate and many of them have had much schooling.

The remedy for this condition of things may be found if the secondary school based upon eight years of preparation and continuing through a course of four years will function to some extent at least for the masses of its children as the college functions for the young men and women. If the college is professional, the public secondary school must be semivocational, to say the least. That is why I have always advocated for broadest reasons of racial development that as soon as the child reaches the years at which the economic instinct begins to develop, he should be confronted for at least a slight portion of each day with the question of what his vocation shall be, and that throughout the high school approximately one-fourth of his time should be bestowed upon that line or subject which bears directly upon what he thinks he will do in life.

The obvious criticism of this plan is that nobody knows at 12 years of age what he will be doing at 30. Granted. He may not know at 30 what he will be doing at 40, but at 10 or 12 years of age he can and should make an attempt to choose an occupation. The earlier the attempt is made the fewer and less disastrous will be the mistakes in adjustments and in readjustments. The trouble with most of our young men who enter college to-day is that they have not enjoyed during the high-school period an adequate opportunity for making even a rough choice of a profession, and consequently they choose their college, agricultural, engineering, or what not, from the most slender and inadequate motives, sometimes for no better reason than to go into a class with a chum.

If there were some way of knowing in advance who were to go to college, it is no doubt true that a better preparatory course could be provided for them than can possibly be provided by the public secondary school that undertakes to operate,

as it must, as a finishing school for the great mass of its children. But if either interest is to be sacrificed, it is better that the person of special intellect and ambition who is later to go to college should suffer something in his preparation than that the mass of our young people should be held in school year after year and then dropped out with no sort of vocational training or guidance.

It is frequently objected that these vocational needs should be met in special vocational schools. As I see it, the objections to this plan are as follows:

1. Such a course is possible only in densely populated districts. It is impossible in the country and in our small towns, where the geographical area over which a child can be transported, whether on foot or otherwise, is no more than is required to support one good school.

2. The separate vocational school is desirable only when a distinct group of children is at hand, which for one reason or another should not be brought into contact with the normal children of the neighborhood. Among ordinary American children it is vastly better in every way, especially for social reasons, that those who are to follow the various occupations in life should be trained together and not separately.

Both the unit and the dual plan have been tried in colleges, and the best success is everywhere obtained when the various professional schools are associated together and on the same campus. The friendships formed are broader, the sympathies developed are wider, and the young people have a much more intelligent and comprehensive view of the world than when each small group is segregated and trained within the narrow compass of its own special atmosphere and surroundings.

3. If the public high schools should be stripped of their vocational motifs through the establishment beside them of all sorts of vocational schools, there would be little left to call out support for or to justify the expense of the small group of people who would remain to be educated for the leisure classes, or what is more likely, for nothing in particular.

FEDERAL AID FOR VOCATIONAL EDUCATION.

In theory every man should educate his own children; in practice he sometimes will not and sometimes can not. Schools are a necessity and compulsory attendance inevitable if we are to have an educated people. In theory a community should establish and maintain its own school; in practice many communities will not do this unless they are compelled by law and then they will maintain schools only at the legal minimum. The result of this is that many children as worthy as many others and afterwards to be citizens with them are curtailed in their educational privileges and through no fault of their own. The State, therefore, as a larger and more powerful unit, should intervene and compel the community, assisting it if necessary, to maintain a school comparable with those of the richer communities. For us to go on with this unequal development will result in an extremely uneven development over the country as a whole, giving the people of the various sections widely dissimilar ideals. It is imperative that these differences be reduced to a minimum, and for this reason Federal aid for vocation is more than justified.

It is, however, in every way inadvisable that there should be a Federal policy regarding education, because in the long run with some help and some suggestions the communities will work out their own salvation better than it can be worked out for them. Congress was wise in 1862 and since in so endowing the agricultural and mechanic arts in the various States as to bring about at least one college in every Commonwealth where these two great subjects should be taught in such a way as to insure the development of these great fundamental industries in the hands of educated men. To these household science has been added, and commerce doubtless should be included.

The Federal Government has been wise up to date in contenting itself with devoting public money to the general cause of education in the various States, leaving to them the question as to what should be taught, how it should be taught, and the particular machinery for giving instruction. Perhaps some additional administrative responsibility should have been exercised over the earlier funds, but as a whole the results of the land grant and its supplementary acts have been eminently successful, not only in beginning the work of education along certain vocational lines, but in stimulating the States to add to the funds for the same purpose many times as much as they have received from the Federal sources.

There remains, in my opinion, but one thing more for the Federal Government to do for vocational education, namely, to endow secondary education in agriculture, mechanic arts, household science, commerce, and perhaps one or two other lines, on precisely the same plan that it has endowed education in mechanic arts and agriculture in the colleges during the last century, leaving to the States the question whether

they should discharge this duty through separate vocational schools or whether they should proceed, as I have indicated, by introducing as rapidly as possible the element of vocational education into all the schools. Conditions differ and ideals differ. Upon matters as large as this I believe that the States should be left free to act. If they are left unhampered they will determine in good time whether the public-school system should be to some extent vocationalized or whether it should be kept free from vocation and other schools developed.

STATEMENT BY DAVID SNEDDEN, COMMISSIONER MASSACHUSETTS BOARD OF EDUCATION, MAY 5, 1914.

I. It is expedient and desirable that aid be given by the National Government for encouragement, promotion, and assistance of vocational education in the various States in the Union.

II. Such aid should be given to the States only for carefully specified forms and grades of vocational education.

III. Aid should be given only after the State, either through the State as a whole or through local areas, establishes and maintains an approved quality of vocational education in any particular direction.

The contribution of the National Government should in no case exceed the amount raised by the State and its local areas for maintenance.

IV. National aid should be given to a State only when the State has organized a distinctive and responsible body to supervise the expenditure of funds for vocational education. This local body may be the State board of education, but its constitution, with proper executive officers, should be approved by the National Government.

V. National aid should be given in the form of reimbursement for local expenditures already incurred, the National Government reserving the right to withhold any particular amount in the event that the local work for which reimbursement is claimed does not appear to meet satisfactory standards.

VI. The National Government should endow some national agency with proper authority, powers, and facilities to supervise the expenditure of money appropriated by the National Government to aid vocational education. This national agency should be placed in a position to develop standards of efficiency in vocational education, to define the conditions under which any particular State should share in the national grant, and in general to insure that national money should be wisely spent.

VII. The national agency should be placed in a postion to inspect, to whatever extent may be required, the schools and types of education for which reimbursement is sought.

STATEMENT BY H. E. MILES, CHAIRMAN COMMITTEE ON INDUSTRIAL EDUCATION, NATIONAL ASSOCIATION OF MANUFACTURERS, APRIL 25, 1914.

Question 1. To what extent is there a need for vocational education in the United States?

Answer. An infinite need. No man can measure it. The need is:

(*a*) Moral. Intelligent work is godly. Intelligent work itself is the great developer and educator of the individual and the race. Intelligent work stimulates ambition, initiative, energy, and happiness. Unintelligent work is deadening and sodden. It makes men and women dull and hopeless, rebellious, anarchistic, or slavish. A great part of the social distinction that attaches to the professions is due to the known special training given, usually at public expense, to the members thereof. This social distinction and worth is now coming to attach to the high places in business for the same reason. The social standing of the working people and their worth to themselves and society will immeasurably increase as they, too, are trained for their work and for citizenship.

(*b*) Economic. Our most precious economic asset is the spirit, brain, and muscle of our people. Educationally we are throwing it away. Economically and industrially we are highly intelligent and skilled only in invention and management. The native ability of our workers is unsurpassed. It is, however, allowed to express itself almost exclusively in mere push and drive. This causes us to produce effectively the coarser articles of commerce carrying the maximum of raw material and the minimum of skilled labor with, consequently, an extravagant, if not wasteful, use of our other natural resources. We must equal the best foreign nations in their development and sale of the maximum of highly developed intelligence in the day's work with only enough of raw material to give it expression. We export cotton at 14 cents per pound and buy it back in fine fabrics at $40 a pound; export steel at 1¼ cents and buy it back at from $2.50 to $10 per pound. Our industrial leaders are wonderfully increasing our export business, but they can not export

in products a generally and highly developed industrial skill which we do not possess in our workers, who would profit by it immeasurably. To say that we are losing a billion dollars a year for want of this training is, probably, a ludicrously low estimate. We should make all those more artistic goods which we now import. There are 1,500,000,000 consumers in the neutral markets of the world, who buy crude stuffs from us in considerable amounts: they buy substantially all of the highly finished products, and considerable crude stuff also, from England, Germany, and France. Meantime, except in especially fortunate years, our production languishes. Our factories could be tremendously increased in number and size; our farmers could immeasurably conserve the soil, and at the same time increase production and lower cost; our women wage earners are lamentably unskilled and in need of that training which raises wages and betters conditions; other women, home makers and spenders, can contribute tremendously to better living at lower cost if trained in purchasing and use.

(c) Social. We can not have the respect, man for man and trade for trade, that our ideals demand until as a matter of simple social justice the money of all, the common funds of government, is used for the training of all. The Federal funds are gathered by a tax upon consumption (except for a small income tax). The poor and moderately well off pay probably four-fifths of these taxes, and yet what is given back for education in Nation and in State is for the use of a very few and increases class and social distinction, except as all children are taught to read, write, and compute. With the giving of these essential primary elements we abandon 60 per cent of our children and confine education to rapidly diminishing numbers after that time, for 60 per cent of all our children leave school by the end of the sixth grade at furthest and will do so as far ahead as we can see. Education to which they are entitled must follow them into the occupations by every principle of moral and social right.

Question 2. Is there a need for national grants stimulating the States to give vocational education?

Answer. Vocational education is coming rapidly with or without national grants. The purpose of a national grant is rather the establishment and development of standards with only enough money given to stimulate the States in opening schools and accepting the standards. The problem is one of the greatest that confronts the country. Unless the best methods and standards are set up and maintained there had best be either no grants, or very small ones. If we do not know with certainty what way is best, then may we not let present experiments, if such they are, continue, rather than stimulate 48 States, and thousands of communities to rush pell-mell in all sorts of strange directions.

Question 3. What kinds or forms of vocational education should be stimulated by national grants?

Answer. All kinds. Beginning, however, at the bottom as one builds a house, and lets the superstructure follow naturally above the foundations. Begin with that 60 per cent of the children who leave school prematurely without education, sense of direction, or any guiding hand worth while. No child is educated nor the duty of the State fulfilled in any decent sense until every child has been taught the initial steps in his chosen occupation, or the way into a better occupation, when the one chosen is unfortunate. No nation that we would emulate lets go of any child educationally until it has fitted the child for life work in and through an occupation, home making, farming, salesmanship, manufacturing, commerce. As these children are at work in their fifteenth year (60 per cent of all the children born in America) the school must accept of the situation. It must be a "Continuation school," teaching them in connection with and though their employment.

We have heretofore been exclusive, undemocratic, unmindful of the common need in spending all our money for vocational training in colleges, polytechnic and other schools for the few, and recently by vast expenditures, increasing yearly, for vocational high schools, from which no child ever goes into manual work. Every dollar now spent should consider primarily the heretofore neglected 60 or 80 per cent (including in the 80 per cent those who stop school at the end of the seventh and eighth grades only a little better off than the first 60 per cent) and provide higher instruction only as coordinated with, and secondary to, continuation and similar schools for the masses.

Question 4. To what extent would the Federal Government aid the States through national grants for vocational education?

Answer. In no case more than a third—and a fourth or a fifth may get as good results. The remainder to be divided between State and local community that both may develop their special needs and opportunities by giving a full measure of State and local intelligence and care to the work.

Question 5. How far can the work of the Federal bureau be extended to aid through expert knowledge vocational education in the various States?

Answer. All power and authority must rest in a Federal board experienced in the vocations and expert in the work to be done. This board alone can develop that body of knowledge and experience which should determine to what extent the Federal bureau of (academic and general) education can assist in the movement by way of correlation and extension without duplication of effort. It may be helpful in making investigations and disseminating information. As organized, the bureau is, and probably should continue to be, made up of men splendidly experienced in the technical, scientific, and practical subjects to be taught in the new schools. There will naturally be a cooperation helpful to both forms of education but each form primarily developed and directed by its particular board or department. The head of the present bureau might well be the representative of education mentioned under question 6.

Question 6. Under what conditions should grants to the States for vocational education be made?

Answer. Establish a Federal commission or board of education consisting of representatives of the public interest in general; of employers representative of commerce and industry; and of skilled employees representative of labor. For instance, three persons in the general interest representative respectively of the Federal departments of commerce, labor, and education, three employers, and three skilled employees.

Let us not fear the strength of numbers and wide experience. Diligent inquiry assures us that this is substantially the practice and experience of every country in northern Europe except Russia and England, and that England contemplates this procedure soon Ireland, Scotland, Holland, Denmark, Norway, Sweden, Germany, and others, after other experience put vocational education in the hands of those who from lifelong effort knew the vocations, not because they are better or worse but because they knew. Their especial social obligation is to serve the common interest along the line of their experience and knowledge. Let us not fear numbers. There is at this hour over 18,000,000 children in the public schools of whom 10,000,000 will quit prematurely without essential education because there are no "Continuation schools" to which they may go upon entering employment. The country is full of adult workers who so quit school prematurely and may yet be exceedingly helped. Up to the limit of efficiency there is no danger in a board overlarge or overexperienced. We are 100,000,000 strong, and spending $500,000,000 annually in the maintenance of our schools—the amount increasing $20,000,000 per year, and this takes no account of $1,000,000,000 in school plants. Our expenditures may be enormously and foolishly increased in the name of vocational education, or readjusted to infinite advantage.

We need management at the top, and study and development. There is none now, The situation is unparalleled in this respect. Only four States have boards of education or other State control that is worth while. These four have boards consisting exclusively, or nearly so, of employers and lawyers. They have accomplished something in two or three States in vocational education, but always for only a few trained for leadership, and ever forgetful of the masses, the less favored, or the dull. Why should not the laboring people, whose flesh and blood is the raw material for these schools, have a definite, equal statute participation in direction, development, and control in this country as in all other countries that we emulate, and from which we get to-day three-fourths of our highly skilled workers?

The commission here proposed corresponds with the new Federal Reserve Board for banking and currency, the majority of whom are laymen, representative of general industry and commerce. Also with the Industrial Relations Commission, representative equally of employers, employees, and the public; of the Interstate Commerce Commission, and the trade commission now under consideration. Employers must be required to correlate factories with schools and to make whatever adjustments are necessary to better the intelligence, character, happiness, and mutual appreciation and understanding of all those, in high places and low places equally, who mutually labor in the common, economic, and social interests. It is essential that the adjustments required be determined in considerable part by those whose lifelong experience as employers and employees gives assurance of right results.

The persons chosen would necessarily be patriotic, constructive, and representative of the social and political aspirations of our people, thereby giving assurance that the schools would make the best sort of men and women, while making skilled workers and home makers.

State and local boards of similar composition should be established to receive the Federal moneys and use them in accordance with Federal requirements. The standards being right, there should be the widest latitude in application, an agricultural

State, for instance, to give special consideration to agriculture, a manufacturing State to manufacture, and each locality to its best, or predominant, lines of development. The power and strength of the Federal board would rest in its central position as the laboratory clearing house for the experience and aspirations of the whole Nation and its representative character which enables it to express the composite needs and, equally, the specific necessities of each. It would interfere as little as possible with the matured conclusions of the several States. To give moneys, however, without assurance and essential requirements, would be merely to distribute largess.

No man can compass the opportunities and accomplishments of such strength of organization. Our industries and our workers, our youth and our society, must be developed by the linking of them all with education, with the discoveries and promotions of specialists in the schools and factories, stores, and farms.

Elementary and high schools.—These schools are being tied in with the continuation schools most fortunately in many places. In New Haven, for instance, 1,100 high-school pupils, at an additional cost of only $10 per year, get from four to six hours of vocational instruction in the trades and in home making in the near-by trade and continuation school. They there work alongside the children from the factories and stores in their workaday garb. This is truly democratic—it is the "real thing"—and betters and helps both the favored high-school pupils and the youthful toilers. The instruction is thoroughly practical and worth while. The unfortunate tendency of vocational high schools with their enormous expenditure is to miss the mark of real practical experience and life. A study of a great city that has spent most per capita on vocational high and polytechnic schools brings the verdict from those in touch with the work, that it has made many children dislike their own homes and hate real work. This statement concerning such schools is given as indicating in a measure the need of practical development in the matter of the common schools, as well as the new schools for those who are at work.

All that is said in this statement is meant with full force to apply to women's employments, to home making, to agriculture, commerce, and manufacturing, and all who labor in these fields and in the expectation of a due proportion of women upon all directing boards. We know no difference between men and women in these respects, unless it be that women need the greater consideration.

RESOLUTION ON FEDERAL AID TO INDUSTRIAL EDUCATION, PASSED BY THE NATIONAL ASSOCIATION OF MANUFACTURERS IN ANNUAL CONVENTION, NEW YORK, MAY 20, 1914.

The purpose of Federal aid for vocational education is the establishment of standards by the Federal Government in the common interest and the granting of moneys to the several States in such sums as will encourage the establishment of schools and the acceptance and maintenance of these standards: Therefore be it

Resolved, That it is the judgment of this association that no aid should be extended by the Federal Government until such standards are thoroughly understood; and further, that the granting of such aid be conditioned upon the establishment at Washington of a thoroughly competent authority or commission representative of the citizenship at large and of the interests especially to be advanced—labor, employment, and education.

STATEMENT BY HERMAN SCHNEIDER, DEAN, COLLEGE OF ENGINEERING, UNIVERSITY OF CINCINNATI, APRIL 30, 1914.

[For his attitude on the kinds of vocational (industrial) schools needed in large urban communities in this country, Mr. Schneider refers to his report to the committee on school inquiry of the board of estimates and apportionments, New York, N. Y., 1911–12.]

STATEMENT OF CHARLES G. MAPHIS, PROFESSOR OF SECONDARY EDUCATION, UNIVERSITY OF VIRGINIA. MEMBER OF COMMITTEE FROM THE STATE UNIVERSITIES UNATTACHED TO THE AGRICULTURAL AND MECHANICAL COLLEGES; MEMBER OF COMMITTEE FROM THE ASSOCIATION OF COLLEGE TEACHERS OF EDUCATION IN STATE UNIVERSITIES, APRIL 13, 1914.

By agreement with other members of the two committees, of which I am a member, this brief will deal with only one phase of the question, that of teacher training. While I am a member of the two committees, noted above, the views I express must be taken largely as my personal opinion, since no meetings of the committees could be

held for the purpose of formulating a report, and I appear before the commission on short notice and without opportunity for more than a very brief conference with one member from each of the committees.

I shall discuss the question briefly, but shall not attempt to follow your questionnaire, which came into my hands for the first time as I appear before you, but offer the following suggestions:

1. TEACHER TRAINING IS FUNDAMENTAL TO THE SUCCESS OF ANY PLAN OR SYSTEM OF EDUCATION, AND THEREFORE SHOULD FORM AN ESSENTIAL PART OF ANY GENERAL SCHEME FOR VOCATIONAL TRAINING.

The greatest defect in our present educational system in the several States is a lack of trained teachers, not only in the elementary schools, but in the secondary schools, and even in our colleges. So pressing and well recognized is this need that normal training in high schools is being rapidly provided, and yet a large majority of our teachers in the elementary schools remain untrained. To meet the fast-growing demand for trained administrative officers and teachers in the secondary schools departments of education have in recent years been established at every State university and in many private colleges and universities. There has never been a time in the history of education in our country when the trained school man or women was in so great demand, and salaries so large as now, although there is a greater percentage of trained school people than ever before. Probably the most marvelous growth which any educational institution has had has been that of Teachers College, New York, notwithstanding the fact that almost every other institution of note has added a teacher-training department.

If, therefore, the value of an need for teacher training are so clearly seen in order to obtain efficiency in the older types of education, it is manifest that it is even more important that the newer types of schools should be directed by teachers trained for their work. Otherwise loss of effort, as well as opportunity, will result and much waste and injury occur.

Recent experience with new types of vocational schools verifies the truth of this statement.

In recent years an attempt has been made throughout the South and in parts of the West to establish agricultural high schools, in which the principal vocational subjects to be taught are agriculture and the domestic arts. Although only a small number of such schools have been established in each State, comparatively few of them have succeeded, and the reason almost uniformly given for their failure is a want of trained teachers to direct them.

A few years ago farm demonstration work was undertaken throughout the South, under the leadership and direction of Dr. Seaman A. Knapp. It met with remarkable success and is still being conducted with success, but the greatest handicap to a much greater success is a lack of trained men for the work. When it was first begun successful farmers with good experience were usually chosen for demonstration, but in a year or two they had used up all the empirical knowledge they possessed; those whom they instructed had caught up with them, and, lacking the broader scientific knowledge of matter and method, their success was not continuous. Trained men is the greatest need of the demonstration work.

The land-grant colleges, many of them, failed largely to perform the function for which they were created, because it was easier to follow the beaten path in education and adhere to the older methods in the traditional way, so that mechanic arts was interpreted in most instances to mean engineering of the usual type, and so engineering schools were developed out of institutions which were meant to train farmers and mechanics principally.

If men broadly and properly trained in agriculture and the mechanic arts in the sense in which the author of the Morrill Act intended it to be interpreted had directed the work of these schools there would have been developed a different type of institution which would have served the States in a broader and more helpful way.

These instances, it seems to me, show the necessity for trained teachers in any new type of school proposed.

2. TEACHER TRAINING INVOLVES—

(*a*) Broad academic knowledge as a basis.

(*b*) Leadership, which is partly at least acquired through such scholarship.

(*c*) Professional knowledge, a knowledge of underlying principles of education from the psychological, biological, and sociological viewpoint.

(*d*) Specialized knowledge of the particular subject to be taught.

We can not adapt as a whole the German system or German methods, but we should learn a lesson from the methods which have made their schools the most famous in the world, perhaps. Over 100 years ago Humboldt sketched the broad and statesmanlike policy which has brought them success, and the secret was provision for adequate training for teachers of her higher schools.

In making these statements I am well aware that it will not be possible or necessary to have every teacher in a system of vocational schools a trained teacher any more than it is now possible to have every teacher in our public schools a trained one. What I do contend for, however, is that at least the head of each such school should be specially and professionally trained, and as many more of the teachers as possible shall have some degree of professional training. Neither do I contend that every teacher in such school shall be a college graduate or shall be trained in a college. That will depend entirely on the character, type, and grade of school.

I do contend, however, that the principles of a broader training set forth in these subheadings should be taken into account, for we must not lose sight of the fact that in this country in which universal education is the bed-rock principle on which the stability of our democratic Government depends, the chief aim of all education should be the preparation for citizenship and, as some one has said, "We should prepare the child not alone to make a living but to live." The possession of a mere technical knowledge and mechanical skill, however, they may incite our admiration or add to the earning power, is not broad enough training for American citizenship.

It can not be denied that the largest percentage of the leadership in this country comes from among those who have had the broadest training.

It should be remembered, also, that the heads of these schools will be confronted with the same pedagogical problems and questions of administration as the principals of any other types of schools. They will have adolescent boys and girls to deal with. They will need to know the same health problems, the same social problems, largely the same administrative problems. In other words, the underlying principles of educational theory and practice will be practically the same as for the usual type of school.

A mere specialized knowledge of a particular vocation and expert skill in its practice will not be sufficient. If we assume that only the heads of such school can or should be trained in this broader fashion, we shall have to give to teachers' training a prominent part in a general plan for vocational training.

3. THIS TEACHER TRAINING SHOULD BE DONE AS FAR AS POSSIBLE IN INSTITUTIONS ALREADY ESTABLISHED FOR TEACHER TRAINING.

There is needless duplication of effort with consequent waste in the multiplication of institutions of learning. Every State-supported school, whether of secondary or higher grade, should as nearly as possible render such service to the State as the peculiar educational, social, and economic needs of the community in which it is located demands. If, therefore, a system of vocational schools by means of Federal aid is established in each State, thus becoming a part of the State system and laying a demand upon the State to train a new type of teachers for such schools, the institutions such as normal schools and departments of education in colleges and universities whose function it is to train teachers, should at once equip themselves with instructors, apparatus, etc., necessary to give the new kind of training. This they can do without establishing new institutions for this purpose except perhaps in the case of highly specialized mechanical vocations, and even in these institutions a large proportion of the training can be done in the regular schools.

4. THE AUTONOMY OF EACH STATE SHOULD BE FULLY PRESERVED AND FULLEST POWER BE GIVEN TO ADOPT METHODS AND TYPES OF SCHOOLS BEST SUITED TO THE SOCIAL AND INDUSTRIAL CONDITIONS PREVAILING IN THAT STATE.

Conditions and needs differ widely in the different States. Massachusetts and Virginia, Pennsylvania and Alabama each will require a somewhat different type of vocational school. Vocational training in the South and West, where about 80 per cent of the population is still rural, will for a long time consist of agriculture with such mechanic arts as relate themselves closely to farming and the domestic arts, while in our larger cities and towns of the East different types of schools altogether will be demanded.

5. THE UNITED STATES GOVERNMENT SHOULD UNDERTAKE THE GENERAL OVERSIGHT AND SUPERVISION OF THIS WORK, AND IT OCCURS TO ME THAT THIS MIGHT WELL BE DONE THROUGH THE UNITED STATES BUREAU OF EDUCATION.

If the bureau could have a special representative in each State attached to the State department of public instruction and cooperating with that department, much could be done in the way of arousing an interest in such schools, and in stimulating effort to establish and maintain them properly.

My belief, then, is that any system of vocational training established in the several States by means of Federal aid will either fail altogether or fall far short of accomplishing its ends unless teacher training be made a prominent part of such system. The training schools and the vocational schools should be conducted at the same time, but the schools should not be established more rapidly than trained teachers can be provided at least to direct them.

Teacher training involves much more than an empirical knowledge of a special vocation, and hence this work should be done as far as practicable in connection with institutions already established for this purpose, such institutions modifying their courses if necessary or creating new ones to meet this special demand.

STATEMENT BY EDWARD C. ELLIOTT, PROFESSOR OF EDUCATION AND DIRECTOR OF THE COURSE FOR THE TRAINING OF TEACHERS, UNIVERSITY OF WISCONSIN, ON BEHALF OF THE CONFERENCE OF THE DEPARTMENT OF EDUCATION IN STATE COLLEGES AND UNIVERSITIES, APRIL 20, 1914.

The economy and success of any Federal plan for aiding vocational education in the several States will ultimately depend upon proper prevision and adequate provision for a properly trained staff of competent teachers of the several vocational subjects. Any plan that does not guarantee that the scheme of Federal-aided vocational education will be under the oversight of such a trained staff is certain to lead to waste and inefficiency.

Practically all of the public enterprises for vocational education are to-day handicapped by the absence of properly trained teachers. It is therefore very necessary for the present commission to consider two essential issues:

First, the desirability of providing direct aid for the training of teachers in the several types of State institutions—normal schools, agricultural colleges, and universities. Provisions will need to be drawn most carefully so as to avoid duplication of effort on the part of these institutions, and any conflict of institutional interests; second, the formation of conditions whereby any Federal funds designed for the support of vocational education in the States shall be expended only in schools staffed with teachers of approved training and competency. The approval of such training and competency should be left with some responsible Federal authority.

STATEMENT BY FRANK L. M'VEY, PRESIDENT UNIVERSITY OF NORTH DAKOTA, MAY 6, 1914.

I. POINT OF VIEW.

(1) In presenting this memorandum I do so as the chairman of a committee of the separate State universities; not of the nontechnical universities, as they have been designated by members of the committee, but of those State universities that do not have departments of agriculture. There are 20 of these State universities, and, having a real experience in the effects and influence of Federal legislation on education, they feel strongly that legislation by the Federal Government should be undertaken only after the most careful review of all the problems involved.

(2) The presidents of these State universities believe in vocational education and the necessity of doing much in that direction. Direct appropriations from the Federal Government to districts and school bodies would mean little incentive and might mean much demoralization because of the inability of any legislative body to make rules that would apply equally to all parts of so varied a country as this.

(3) The amounts appropriated, while large in the aggregate, would have but small influence upon the development of schools.

The problem of education is essentially a State and local problem. There is no reason why one State should be called upon to aid another State in the work of education. The place to solve vocational education in New York is in New York, and the backwardness of the communities in accepting this view does not justify calling on the Federal Government.

(4) Moreover, the tendency to run to the Federal Treasury for every need, and in the case of financial assistance for any movement not otherwise provided for, must be viewed with alarm and looked upon as likely in the long run to mean heavy Federal

taxation and a limitation upon the fiscal systems of the individual States. Besides, such action opens the door to any and every appeal for funds which may be as fully justified in one instance as another.

(5) The advocates of this form of subsidy for vocational education will fail to find in European experience any support for their contention. In Germany the States, municipalities, guilds, and merchant associations work together to develop vocational education without aid from the Imperial Government. Each State deals with its problem as seems wise and necessary. Thus, one-half to two-thirds of the cost of maintenance of such schools are provided for by the States, but the buildings are constructed by the municipalities and the balance of the expense met by the cities and the merchant and guild associations. The proposal to appropriate money from the Federal Treasury on the basis of population makes it a sectional and class legislation proposal.

I. IF THERE IS TO BE FEDERAL LEGISLATION ON VOCATIONAL LEGISLATION, WHAT SHOULD IT BE?

(1) In view of the fact that the economy-of-time problem is unsolved in our school system, there is in reality no provision for a place for vocational education. In the European systems of education the vocational training has a place in the system, but with our system of eight grades and four years of high schools the vocational training has no opening for real development.

Here at once is a real difficulty that brings the problem into the realm of propaganda and necessitates leadership and direction. This the Bureau of Education could bring about, and without such reorganization any system of vocational education must languish. Appropriations for investigations and encourgement of real progress in dealing with the problem under the direction of the Bureau of Education would be most helpful. This, however, is a distinctly different proposal from the one made to appropriate funds from Federal sources for direct aid to vocational educational enterprises in the different States on the basis of population.

(2) In addition, the utilization of the State departments of education under the general supervision of the Federal bureau, in working out the problem of vocational education, would bring each State into touch and at the same time place the work under general supervision for purposes of uniformity. Such suggestions are quite out of line with the proposal that Federal appropriations should be made to schools undertaking certain forms of vocational training, but they are fundamental in that they deal with the basis of a vocational educational system and hold the development along essentially national lines.

III. CONCLUSION.

(1) It is therefore hoped that the commission appointed by the joint resolution of Congress will be willing to see the crudeness of any legislation that merely hands out money to separate States to engage in vocational educational enterprises.

(2) While it is evident that a number of years must pass in developing a vocational educational system, real wisdom calls for leadership and a constructive program, which is all that the Federal Government should be asked to contribute.

(3) The result can be brought about through the agency of the Bureau of Education in cooperation with the State departments of education in the different States, and all the benefit of uniformity and incentive to the movement be secured.

STATEMENT BY FRANKLIN B. DYER, SUPERINTENDENT OF PUBLIC SCHOOLS, BOSTON, MASS., APRIL 30, 1914.

The stimulus afforded by national grants seems to be absolutely necessary in order to place the importance of vocational education squarely before the country.

Again, the distribution of these grants upon some uniform condition will standardize vocational training as nothing else could and prevent waste of money and energy in experimentation.

Further, the value of industrial efficiency is of nation-wide importance and not merely local.

The order in which the different forms of vocational education should be associated is as you have placed it in your list: First, agricultural; second, industrial; third, commercial; fourth, home economics. I should place the training of teachers ahead of all the others, however, or, at least, parallel with the others. I am also inclined to think that industrial education is in parallel with agricultural education rather than beneath it in importance. The education of the city workman should be looked after as well as the country workman.

It would appear to me that the Bureau of Education is the proper institute for disseminating information; at least, it should be in one distinct department to prevent confusion.

I think that grants should not be given as gratuities, but under condition of the local authorities bearing part, at least half, of the burden and conditions of standardization that would be approved by the National Government.

In granting Federal aid it seems to me that it would be well to begin with a few schools which should be developed as examples of what may be done, and then extend aid upon the basis of the knowledge gained by these experiments.

There is no doubt of the propriety of the Government designating in extreme detail the way in which money shall be expended, but I do believe that there should be clearly defined restrictions and standards set up.

STATEMENT BY JOHN W. COOK, PRESIDENT STATE NORMAL SCHOOL, DE KALB, ILL., MAY 1, 1914.

1. Everyone admits the need of vocational education. To deny its need would be to declare that the workers of the world have no need of any skill beyond what they may acquire by the old method of apprenticeship, or by their own experience in bread winning.

2. Since skill is the universal demand of modern life the only question that remains is the method by which it may be acquired.

3. The percentage of trained workers is small. The consequent loss to the Nation is enormous. There seems no place for one to stand who denies the pressing need of vocational training in educational institutions.

1.

(a) ECONOMIC DEVELOPMENT.

It took thousands of years to produce the power loom, the spinning jenny, and the cotton gin. The economic development of the country consequent upon the invention of these three machines was greater in a decade than it had previously been in a half-millennium. These machines were the product of trained minds. They appealed to trained minds. They stimulated trained minds to further invention. Economic development is proportional to the attention which superior minds are induced to give to economic problems, and this stimulation is proportional to the extent of vocational education.

(b) SOCIAL BETTERMENT.

It goes hand in hand with the lifting from the shoulders of men the heavy burdens of toil and laying them upon the shoulders of the giant that lives in the steam and in the electric current. (c) It is now about 150 years since the first effort was made to employ manual work for purely educational purposes. Within that period, and quite recently, the situation has changed end for end. Now much of educational effort aims at the production of the skilled worker. Nowhere else is value of education so quickly seen.

2.

Popular education has thrown an immense burden upon all of the States, and some of them are so far behind in their systems of taxation that they have are not yet furnished with the means for the most elementary public education. With such communities vocational education is altoghether out of the question without national aid. Even in the highly favored States the localities find it very difficult to provide suitable vocational instruction in addition to what is required by law. It will be many years before anything adequate will be afforded without Federal grants. They are needed not alone to give the initiative, but also to aid in carrying the burden.

I can not see much in point (c), but standardization will not be secured without conditioning the grants on a minimum equipment. If local communities are not sufficiently interested to undergo some degree of sacrifice for so notable an addition to their educational facilities as would be possible under a fairly liberal Federal grant, they should be passed by.

3.

Any attempt to carry out so large a scheme should prepare to cover the field of vocations. At first more liberal recognitions should be accorded to those features that are well organized and already at work and that need help to cover new demands.

Of these five the instrumentalities that are at once suggested are agriculture, home economics, and the preparation of teachers. The other two have partial organization and will soon develop under the encouragement of Federal help.

The several kinds of schools mentioned should be organized. This organization should prepare to cover fields where these different schools would be prepared to meet the different demands. Evening school will meet the needs of certain communities, half-time schools of others, while there are demands, especially in the larger cities, where only all-time schools should be organized.

4.

This is a detail of policy that I do not feel myself able to discuss. Large information of a statistical character is needed.

5.

See 4.

6.

I am strongly of the opinion that grants should be conditional, and that one of the conditions should be local community help.

STATEMENT BY H. M. GILES, PRINCIPAL, TOWNSHIP HIGH SCHOOL, DE KALB, ILL., MAY 1, 1914.

I. To what extent is there need for vocational education in the United States?

(a) ECONOMIC NEED.

1. Vocational education is needed to keep this Nation abreast of the leaders in the industrial world. In our economic history we have come to the point when a great change is going over our industrial life. Until now we have competed only in home markets, to-day we are entering world markets and world competition, and one great element in our success will be the trained workman. It has been said that industrial eminence depends upon three things—natural resources, machines, and men. We have wonderful resources, machines beyond compare, but we are not supplied with the trained workman to handle our machines most efficiently.

2. It is reported that the majority of our foremen in industrial work are foreign-trained men. This is a serious criticism of our education and shows our failure to meet an economic need.

3. The study of our imports and exports shows that we are importing finished products from Germany and exporting raw materials to Germany to be manufactured into finished products. This would indicate that our industries are unable to compete with foreign firms in making up the finished product. Such ability to compete can come only when we have trained workers.

4. We need vocational education in commercial lines in order to compete successfully for foreign markets in South America, Asia, and Africa. The Germans particularly are getting the bulk of this trade because they understand foreign-trade conditions and are prepared to go after the business. It is reported, for instance, that in the United States a letter from South America written in Spanish is answered in English, while in Germany the reply is always made in the native language of the country from which the letter comes.

5. We need vocational education from an agricultural point of view, for we are undoubtedly both wasting our natural resources and are failing to get the results which farmers in European countries are obtaining from their lands. Only through an intelligent and scientific agriculture can these results be obtained. The trained farmer to do this scientific agriculture must come from the school.

6. The complexity of modern industry is such that the individual can not pick up a knowledge of a trade. He must be adequately prepared by understanding the theory and by having the technical skill which is at the base of his occupation. This training must be given in the school.

7. The specialization of modern industry must be counteracted by a broad general training in the schools.

(b) SOCIAL BETTERMENT.

1. There is considerable social waste through having individuals pick up a knowledge of their occupations by observation or by the "cut-and-try" method. The work of Taylor, Emerson, and others in industrial efficiency shows the advantage of trained workmen in producing the greatest economic output.

2. The result of vocational training in home economics would be of great social value. It would give us better homes, better health for the wageworker, healthier children. The wife and mother who could spend her income to the best economic advantage could do much in reducing the cost of living. It is reported that the average family must be supported on an income of $800 to $900. The part which the woman spends in providing food, clothing, and shelter should be spent to produce the greatest values. This can only be done when the woman is conscious of the values to be obtained.

3. The years 14 to 18 are the unsupervised and wasted years for boys in industrial life. The vocational school is needed to eliminate the waste.

The educational values in vocational education are of tremendous importance. We say that education should fit the individual to function effectively in the social life about him. Earning a living is one of the greatest of social functions. Therefore education can not afford to overlook the training which leads to effective functioning on the economic plane. It is the problem of modern education to combine vocational, cultural, and liberal education in a well-balanced whole.

1. Statistics show that over 90 per cent of our workers go into the trades, commercial lines, agriculture, while less than 10 per cent go into professional lines. The old education prepared largely for the professions. The new education should recognize the importance of the other occupations.

2. The old education gave the tools for communication, reading, writing, and arithmetic; the community, the home of the shop, furnished the industrial education. Changed social conditions make it imperative that the school should take over the industrial education formerly done by the home and shop.

II. Is there a need for a national grant stimulating the States to give vocational education?

A. Federal grants are needed to emphasize the need for vocational education in the States. Such grants will stimulate backward communities to action. Vocational education is a national problem and needs national recognition.

B. Federal grants are needed to help bear part of the burden of maintenance, since that burden is more than local communities can afford. The national prestige is at stake, and the Nation should see that communities receive financial aid in carrying out vocatonal education.

C. The prestige received through Federal grants would undoubtedly be a help.

D. National grants might be offered with certain conditions, with the idea of bringing about standardization. Such standards, however, should not be too rigid, in order that communities may have opportunity to meet local conditions.

III. The following forms of vocational education should be stimulated by national grants:

A. Agricultural, because the prosperity of the Nation depends upon a scientific and permanent agriculture. All classes and groups are interested in a permanent system of agriculture. Further, some rural communities would need the stimulation which would come from national aid.

B. Industrial education needs national grants because of the heavy expense of equipment and maintenance. This expense of furnishing machines, power, and trained teachers is such that local communities in many cases would be unable to afford adequate equipment.

C. Commercial. The need for national grants in commercial education does not seem so imperative as in the types mentioned above. The expense of equipment is not so great and the training to be given is not so complex. Further, the larger cities where training would be mostly needed would probably be able to furnish adequate facilities for this instruction.

D. National grants in vocational education and home economics would be desirable, because this is needed in all communities, both rich and poor. If such grants were not given, the poorer communities would be apt to suffer in comparison with the more wealthy.

E. National grants are needed for the training of teachers in vocational lines, as this is one of the greatest problems of vocational education. Only institutions with a large private endowment could be able to provide the training and equipment necessary. Such schools for the training of teachers, however, might be centralized, as it would hardly be advisable for a large number of communities to undertake the training.

F. Any school offering vocational work indicated above would be entitled to national aid because all are working at the same problem. Part-time and evening schools need it as well as all-time schools, because the first two named schools will undoubtedly serve a great social need in bringing the gap from the untrained boy of 14 to the trained worker of 18.

IV. The extent to which the Federal Government should aid the States through national grants for vocational training is a question which, it seems to me, requires

investigation along the following lines: The cost of maintaining a standard school of a given kind, containing a given number of pupils and having adequate equipment, should be gotten at as accurately as possible. Of this amount the proportion given by the various bodies might be estimated somewhat as is done in building roads, for instance, one-fourth given by the National Government, one-fourth by the State, one-half to be furnished by local communities maintaining schools.

V. The Wisconsin law for trade schools, section 553, page 5531, gives a plan for State aid. The work of the Federal bureaus might be extended to give valuable aid to vocational education.

A. The Bureau of Education might be made a clearing house for information in regard to vocational education much in the same way which is now the clearing house for general education. It might, for instance, make estimates as to the cost of installing standard schools, have information as to where trained teachers could be obtained, report vocational advance made in various parts of this country and foreign countries.

B. The Bureau of Labor Statistics might report to the Bureau of Education information of the following character, to be distributed among the schools: The demand for labor in the various trades and occupations in the various parts of the country; the pay in various occupations, together with the opportunities for advancement; the conditions under which labor works, etc. This will be valuable material for vocational guidance and vocational education.

C. The Department of Agriculture is doing valuable work for agricultural education at the present. This work is largely technical, but if put in a form to appeal to the young, might be of more value from the standpoint of vocational education.

D. The Departments of Commerce and of Labor might obtain valuable information as to conditions in both commerce and industry in this and foreign countries which would be of extreme value to teachers in industrial and commercial schools. Such information might be published in bulletins and distributed through the Bureau of Education.

VII. Grants to States for vocational education should be made under conditions. Such conditions would be—

A. Financial. A contribution by the community of a sufficient amount to guarantee a satisfactory school.

B. The employment of teachers with a certain minimum training, such training to include practical experience in the trade.

C. The offering of a minimum curriculum.

STATEMENT BY EUGENE DAVENPORT,[1] DIRECTOR COLLEGE OF AGRICULTURE, UNIVERSITY OF ILLINOIS, MAY 1, 1914.

INTRODUCTION.

In making the following answers, I understand vocational education to refer to that portion of the education of an individual which directly refers to the profession, occupation, or other activity in which he proposes to engage as his contribution to the economic social order, in contrast with nonvocational education or that portion of education which deals with knowledge in general, with purely intellectual development, and with the activities of people other than the individual himself. Thus, education, as I understand it, is divided between vocational and nonvocational rather than between industrial and nonindustrial, general and particular, or cultural and noncultural. With this understanding vocation would be defined as the interest to which the individual will devote his energies by way of active exertions for the betterment of man. This, in most cases, is called out by the necessity of earning a living, but it is incumbent upon the millionaire and the laboring man alike.

Education must have three great purposes in order to justify the time and expense necessarily devoted to it: First, the higher development of society; second, the increased efficiency of the individual; and, third, his personal satisfaction.

I.—Civilized man is chiefly distinguished from the savage and from animals by the things that he can do; that is to say, by his ability to pursue systematic endeavor, which is vocation; and certainly one of the purposes of education must be to make men more efficient in their various activities. Men are civilized and developed not by thinking about activities, but by performing them, and races are civilized and developed in proportion to what they actually accomplish. There is therefore no higher purpose in education than the development of our vocations, because—

A. That race which is best trained vocationally will achieve the highest economic independence and efficiency, which means that its stability is best assured.

[1] Mr. Davenport submitted two statements to the commission: This one as a member of a committee of the National Education Association; another (see p. 267) at the direct request of the commission.

B. The social welfare of the race will be best established when all vocations are developed somewhat proportionately. Only 4 per cent of our population can be called professional and less than 1½ per cent belong to the so-called learned professions—law, medicine, and theology. To leave the other 96 per cent uneducated vocationally is to allow the race to drag behind in most of its principal activities. If the farmers are inefficient, our food will be lacking in quantity, quality, and permanency of supply. If the building trades are not developed, our homes will be neither well designed nor well constructed. The fashions of dress at the present moment indicate the lack of trained minds in design.

C. The original purpose of education was vocational improvement in theology, medicine, and law. It is only recently that we have considered education to be general and not special. The original impulse was to found a school to meet a definite vocational need, and it is only since we have founded schools for all the children of all the people that we have become befogged as to what the real purpose of education is beyond the elementary grades.

II.—There is great need for National grants for vocational education.

A. Such National grants would stimulate the States to early endeavor in this direction. The development is bound to come ultimately, but Federal grants tend strongly to an early and uniform development of vocational education.

B. These grants are needed to help pay the cost of maintenance, especially in the poorer States.

C. They do give prestige to vocational education by giving National recognition.

D. They undoubtedly contribute to standardization of the work, though this is of doubtful utility; indeed, I think this is one of the probably consequences of National grants that ought to be provided against. I do not believe in a National standardization of vocational education, but rather that the Federal Government should do for secondary education along vocational lines exactly what it did for college education in 1862, namely, make grants to the States to be used by them in such ways as they deem best under the most general supervision of Federal Government.

III.—Vocational grants for vocational education should manifestly be devoted to the neglected lines or else to those most difficult and expensive to teach. These would be—

A. Agriculture.
B. Mechanic arts.
C. Commerce.
D. Home economics.

E. On the training of teachers I am not clear. If it could be done by national grants without too much supervision of the courses of instruction, I should favor it; otherwise I should not, but should advocate leaving the training of teachers to the States, making the condition for the bestowal of the Federal grant that competent teachers should be employed; indeed, I believe that all Federal grants should be conditioned upon some kind of adequate response on the part of the State.

F. I should include all-time, part-time, and evening schools upon the ground that the normal community should udertake to meet the educational needs of all its people, and if the Federal influence intervenes, it should help to do the normal thing.

IV.

A, B, C, D.—I do not see that the extent of aid to these four vocational lines should differ. The same principle, so far as I know, applies to all. Experience has shown that the chief function of Federal aid is to start the movement and in the right direction, but after it is once started most of the States will carry it on generously. The stronger States are now spending from 5 to 10 times as much money for vocational education in agricultural and mechanical colleges as the total Federal endowments for that purpose, showing clearly that it is not necessary to fully endow education by Federal grants. On the other hand, a few States have failed to respond and are inclined to operate their institutions on Federal money alone. I believe this should be prevented by requiring the State to make an appropriation at least equal to the Federal grant.

College instruction has been confined for the most part to one institution within a State. Secondary education to be effective should of course provide for a number of institutions, though the provision might be gradual. It would not be necessary to endow every school for the teaching of all these subjects, though every one, I believe, should be endowed to teach home economics, and each subject should have from all sources a total endowment of not less than $1,000 and $2,000 would be highly desirable. If 10 per cent of this should come from Federal sources. it would constitute a mighty influence for putting these subjects in all of our schools.

V.

A. The Bureau of Education can be helpful in supplying the States with the latest information as to methods and procedure in educational matters.

B. The Bureau of Labor Statistics can be helpful by giving information as to the actual labor conditions of the country, the vocational demand, and the recompense for service, together with brief statements of the privileges and hardships that attach to the various callings of men.

C. The Department of Agriculture can exercise for secondary schools the same helpful influence that it is already exercising for colleges.

D. The Department of Commerce can serve commercial courses as the Department of Labor can serve the industrial courses with expert, highly specialized information about trade.

VI.

A. Federal grants, in my opinion, should not be gratuitous, but rather conditional.

B. These conditions, I believe, should be: First, that the Federal appropriation should be at least matched by an equal amount appropriated by the States for the same general purpose; and second, that the States should report to the Federal Government not only upon the use of the Federal funds, but upon the use of the State funds designed to accomplish the same purpose.

I would not impose further conditions except those necessary for the Federal administration of the funds.

STATEMENT BY W. O. THOMPSON, PRESIDENT OF THE OHIO STATE UNIVERSITY, APRIL 16, 1914.

In the first place, at the meeting of the association in Columbus, Ohio, in November, 1911 (see record of proceedings, pp. 114–123), the whole subject of Federal aid for agricultural extension was under consideration, and at the same time certain definite conclusions were reached on the matter of vocational education. Item 2, which was unanimously adopted, is as follows:

"That the association declare by vote whether it would favor ample provision in the secondary schools for industrial and vocational education, special reference being made to the several types as set forth in the bills introduced in Congress, namely, agriculture, home economics, and the trades and industries, including manual training."

Item 3 of that report as adopted is as follows:

"That the association by vote declare whether it would favor Federal aid for public schools of secondary grade, providing secondary education in agriculture, home economics, the trades and industries, including manual training, and for the education and professional training of teachers for these schools in the several States, as may be determined by the legislature."

It should be added that this report was the net result of numerous discussions before the association, during which time resolutions favoring both agricultural extension and vocational education were introduced by members of the association, and were embodied in reports of the committee.

A reference to the record of the association will reveal that the association was heartily committed to the theory of Federal aid to vocational education, but that it thought the time was ripe when a movement for agricultural extension should take precedence over the one for vocational education. In this last particular, however, there were members of the association who believed that both movements should go forward at the same time.

The members of the association did not agree to the administrative features of the vocational bill then before Congress. The opinion prevailed that this bill was not drawn in such form as to make it easily adjustable and adapted to the needs of the several States. On the general proposition, however, as to aid for vocational education I am prepared to say that the Association of American Agricultural Colleges and Experiment Stations would cordially support such a measure.

APPENDICES.

APPENDICES.

APPENDIX A.—QUESTIONS SUBMITTED TO THE DEPARTMENT OF THE INTERIOR (BUREAU OF EDUCATION).

1. What has the Bureau of Education done to promote the following kinds of vocational education?—
   a. Agricultural education.
   b. Household arts education.
   c. Commercial education.
   d. Industrial and trade education.
2. What methods and devices has the Bureau of Education used in promoting these different kinds of vocational education?
   a. Agricultural education.
   b. Household arts education.
   c. Commercial education.
   d. Industrial and trade education.
3. What information, if any, as to agricultural, and agricultural processes and problems, has the Bureau of Education furnished to the agricultural schools of the country?
4. Is the Bureau of Education equipped to render this service, or can this service best be rendered by the Department of Agriculture?
5. What information, if any, concerning the home, home processes and problems, has the Bureau of Education furnished to the schools of the country to be used in household arts education?
6. Is the Bureau of Education equipped at the present time to render this service?
7. Should the information to be used in household arts education for rural schools be supplied by the Bureau of Education, or should this service be rendered by the Department of Agriculture, which is now carrying on such work to some extent?
8. What information concerning commerce, commercial practices and problems, if any, is the Bureau of Education now furnishing for use in commercial education in the schools of the country?
9. Is the Bureau of Education equipped at present to render this service?
10. Should this information be supplied by the Bureau of Education, or should it be furnished by the Department of Commerce?
11. What information, if any, concerning trades and industries, trade and industrial processes, and problems has the Bureau of Education furnished for use in industrial education in the schools of the country?
12. Is the Bureau of Education equipped at the present time to render this service?
13. Should this service be rendered by the Bureau of Education, or should the information be supplied by the Bureau of Labor, which at the present time is doing such work?
14. What is the Bureau of Education doing to assist in the training of teachers for any of the above forms of vocational education?
15. What, in your opinion, is the proper place and relationship of your bureau to other Government bureaus in furnishing information and helping in various ways the above forms of vocational education?
16. What additionl appropriation, if any, to your present budget, would in your opinion, be necessary in order to equip your bureau to do the things which you think it ought to do for all the above forms of vocational education?
17. Is the Bureau of Education prepared to furnish within the next 10 days a statement to be incorporated in the report of the commission describing the present and proposed activities of the Bureau of Education in promoting vocational education, and in addition, what additional appropriations to the present budget it requires for the promotion of this work?

APPENDIX B.—QUESTIONS SUBMITTED TO THE DEPARTMENT OF COMMERCE.

1. What evidence has the Department of Commerce that there is an urgent need for commercial education in this country of a type not now being given extensively?
2. To what extent is the Department of Commerce now assisting States and local communities by furnishing information either as to the need of commercial education or as to facts to be used in commercial education?

3. Is the Department of Commerce taking steps to promote commercial education in this country, and, if so, what steps?

4. Attached hereto is a memorandum giving a description of some of the kinds of information that is needed in the promotion of commercial education in this country. Is the department at the present time collecting any of this information?

5. Is it the opinion of the department that the collecting of this kind of information is a legitimate part of its duties?

6. Is the Department of Commerce in a position to furnish, within the next 10 days, a statement to be incorporated in the report of the commission, describing its present and proposed activities in promoting commercial education, and, in addition, what additional appropriations to the present budget it needs for the promotion of this work?

EXHIBIT A.

TENTATIVE STATEMENT OF INFORMATION NEEDED IN THE COUNTRY-WIDE DEVELOPMENT OF COMMERCIAL EDUCATION.

1. How efficient is the present service in commercial pursuits in this country?
2. What are the causes of inficiency?
3. What is the weakness, if any, of the private commercial schools and business colleges of all kinds?
4. What is the weakness, if any, of the public commercial schools?
5. What is needed to enhance the value of the training now given in both private and public commercial schools?
6. Information to be used in commercial education throughout the country which needs to be gathered by a national agency, such as the Department of Commerce.

A. Supply and demand for trained commercial workers.
B. Distribution of commercial workers.
C. Vocational guidance of commercial workers.
D. Selection and placement of commercial workers.
E. A descriptive analysis of the world of commercial pursuits into broad lines of employment, such as banking, accounting, business management, executive service, shipping, salesmanship, ordinary clerical work.
F. A descriptive analysis of each one of the above-mentioned broad lines of employment, or their equivalent, into specific occupation, and of these occupations into such important factors as—
   (a) Sources of supply of commercial workers in each occupation.
   (b) Prevailing salaries of commercial workers in each occupation.
   (c) The demands upon the commercial worker in each occupation, as to general education and commercial education.
   (d) Opportunities afforded by each occupation to the commercial worker for training for higher responsibility.
   (e) What is the next job above in regular order, in each specified occupation, and how far does the experience gained in the occupation prepare for the next position?
   (f) Changing conditions of commerce, making for changing requirements upon the commercial workers and thus affecting their needed education.
G. Information with regard to the requirements upon commercial workers in dealing with foreign commerce.
H. Information with regard to the practice and classes of foreign commercial schools of different types.

APPENDIX C.—QUESTIONS SUBMITTED TO THE DEPARTMENT OF AGRICULTURE.

The following questions are directed entirely to agricultural education as given in schools and have no reference to the work of the Department of Agriculture in agricultural and mechanical colleges, experiment stations, and farm-extension work under the Lever bill:

1. To what extent and in what ways is the Department of Agriculture encouraging agricultural education through schools of secondary grade (high schools of agriculture) in this country? Household arts education?

2. To what extent and in what ways is the Department of Agriculture encouraging elementary agricultural education in the rural elementary schools? Household arts education?

3. What information is the Department of Agriculture now furnishing for use in agricultural education in public schools? Household arts education?

4. Is the Department of Agriculture equipped to meet all the demand for information of this kind at the present time in both agricultural and household arts education?

5. What additional appropriation to its budget, if any, does the Department of Agriculture need in order to meet the responsibility for both agricultural and household arts education?

The following questions have only to do with information concerning extension teaching in agriculture:

1. What is the extent of the farm extension work in agriculture carried on in this country at the present time with which the Department of Agriculture is connected in any way as giving direction, aid, or assistance? In household arts?

2. What is the character of this direction, aid, or assistance?

3. To what extent and in what ways is the Department of Agriculture now furnishing directly to the farmer information for use in farming? To the women on the farm in household arts?

4. Is the Department of Agriculture prepared to furnish the commission, within 10 days, a somewhat detailed statement classifying the different kinds of methods by which the department is in a concrete way of direct help to the farmer by other than farm-extension work? To the women on the farm in household arts by other than farm-extension work?

5. Is the Department of Agriculture adequately equipped at the present time to meet the calls for assistance in dealing with the individual farmer? In dealing with the woman on the farm in household arts?

6. Can we assume that the Lever bill equips the Department of Agriculture to meet properly the demands upon it in connection with farm-extension teaching provided for in that measure?

7. What, in your opinion, is the proper place and relationship of the Department of Agriculture and the Bureau of Education in the field of agricultural education? In the field of household arts education?

8. Is the Department of Agriculture in a position to furnish, within the next 10 days, a statement to be incorporated in the report of the commission describing its present and proposed activities in promoting agricultural household arts education, and, in addition, what additional appropriations to the present budget it needs for the promotion of this work?

APPENDIX D.—QUESTIONS SUBMITTED TO THE NAVY DEPARTMENT.

1. What is the Navy Department doing to promote the efficiency of the enlisted men in the United States Navy in the following subjects?—
   (a) General education.
   (b) Commercial education.
   (c) Industrial and trade education.

2. How many of the enlisted men are taking any of the following correspondence school courses?—
   (a) General education.
   (b) Commercial education.
   (c) Industrial and trade education.

3. How many enlisted men are serving in the Navy?

4. How many are taking either of the following courses in classes supported by the Navy Department?—
   (a) General education.
   (b) Commercial education.
   (c) Industrial and trade education.

5. What is the educational status of men who present themselves for enlistment as to—
   (a) General education?
   (b) Commercial education?
   (c) Industrial and trade education?

6. Is there any differentiation as to the terms of enlistment as between those who intend to take up educational courses in the Navy and those who enlist for the usual period?

7. What is the general character of these courses of instruction in industrial and trade subjects?
   (a) What is the length of the courses?
   (b) For what industries or trades is preparation given?
   (c) What subjects are taught for each trade?

8. How is this training on board ship and in navy yards supervised?
   (a) Under whose immediate charge in the Navy Department is the work centered?
   (b) Who is in charge of the work on board ship?
   (c) Who is in charge of the work when given in a navy yard?
9. To what extent are apprenticeship courses given in navy yards?
10. In what specific trades or callings are apprenticeship courses given; the number in each?
11. What plans, if any, has the department for the extension of this work?
12. Does the department need information concerning specific occupations, trades, and callings for use in the advancement of these courses formed and to be formed?
13. A statement of some information which is desirable that could be furnished by other departments of the Federal Government, which is now being gathered in part, is attached hereto and marked Exhibit A. Would such information, or similar information, be of value in the industrial and trade education work of the Navy?
14. Is the Navy Department in a position to furnish, within the next 10 days, a statement to be incorporated in the report of the commission describing the present and proposed activities of the Navy in promoting the education of its enlisted men; and, in addition, what additional appropriations to the present budget does it need for the promotion of this work?

Exhibit A, suggesting some of the kinds of information which is now being gathered by the Government bureaus with a view to finding how far this information would be useful to the Navy Department in carrying on industrial and trade courses for enlisted men, such as—

1. A thorough and detailed analysis and classification in each trade and industry, of occupations, operations, processes, practices, and trade demands upon workmen.
2. Fresh and accurate information as to the progress made in the preparation of skilled workmen for the trades through apprenticeship, cooperation, and trade agreements.
3. Timely knowledge as to pronounced changes in trade and industrial processes and occupations, materials and organization which affect the proper education of workers to meet trade requirements.
4. Careful reports from time to time showing the progress, present conditions, problems, and tendencies throughout the country of the movement for industrial efficiency.

APPENDIX E.—QUESTIONS SUBMITTED TO THE DEPARTMENT OF LABOR (BUREAU OF LABOR STATISTICS).

1. What is the Bureau of Labor Statistics doing to promote industrial and trade education in the United States?
2. What methods and devices is it using in promoting this education?
3. What information concerning trade and industries, and trade and industrial processes and problems is it furnishing for use in industrial and trade education in the United States?
4. What facilities has the bureau at the present time to furnish information for use by the schools of the country in giving industrial and trade education?
5. What are the sources of information, and the methods and devices whereby the Bureau of Labor secures this information, either directly, or as a by-product?
6. What, in your opinion, is the place and relationship of the Bureau of Labor and the Bureau of Education in the gathering and use of information concerning the trades and industries for use in industrial and trade education?
7. To what extent has the Bureau of Labor Statistics gathered and furnished to the country in the past information concerning industrial and trade schools?
8. What plans, if any, has the bureau for gathering and publishing information of this kind in the future?
9. What, in your opinion, is the proper place and relationship of the Bureau of Labor Statistics and the Bureau of Education in the matter of gathering and publishing information concerning industrial and trade schools in such matters as the following: Location, enrollment, plant, equipment, organization, certification of teachers, courses of study, methods of instruction, etc.?
10. What help is the Bureau of Labor Statistics now giving, if any, for use in the preparation and selection of proper teachers of industrial and trade subjects?
11. What additional help, if any, is the Bureau of Labor Statistics planning to give in this field, and how does it propose to give it?
12. Assuming that there is great need for standardizing the requirements for teachers in various industrial and trade subjects, what assistance could the Bureau of Labor Statistics render in establishing such standards, and in modifying them from time to time to meet changing conditions?

13. What, in your opinion, is the proper place and relationship of the Bureau of Labor Statistics and the Bureau of Education in the matter of the training and selection of teachers for industrial and trade subjects?

14. What publications has the Bureau of Labor Statistics issued in the field of industrial education and what is it planning to issue?

15. What is your opinion as to the proper place and relationship of the Bureau of Labor Statistics and the Bureau of Education in the matter of publications in the field of trade and industrial education?

16. To what extent is the Bureau of Labor Statistics equipped at the present time to do what in your opinion it could do efficiently to aid vocational education for the trades and industries, and what additions would it need to its facilities to meet these demands?

17. What classifications has the Department of Labor prepared on the following points which would be of help in promoting trade and industrial education: Age, sex, continuity of employment, opportunity of advance in a given trade, increase of wages, etc., within specific industries?

18. What analyses, if any, has the Department of Labor of specific industries that show the opportunity for employment for men and women separately?

19. Is the Bureau of Labor Statistics in a position to furnish within the next 10 days a statement to be incorporated in the report of the commission describing the present and proposed activities of the Bureau of Labor Statistics in promoting industrial and trade education, and in addition, what additional appropriations to the present budget it requires for the promotion of this work?

APPENDIX F.—QUESTIONS SUBMITTED TO THE WAR DEPARTMENT.

1. To what extent is the War Department now providing training in service for enlisted men in the following subjects?—
   A. General education.
   B. Commercial education.
   C. Agricultural education.
   D. Industrial and trade education.

2. To what extent is the War Department planning to extend the training of enlisted men in these subjects?—
   A. General education.
   B. Commercial education.
   C. Agricultural education.
   D. Industrial and trade education.

3. To what extent are correspondence school courses now being taken by enlisted men, and under what rules and regulations is the work carried on inside the Army?

4. What is the character of the instruction in industrial and trade subjects for enlisted men?—
   A. In what industries or trades is instruction given?
   B. How long is the course?
   C. What kinds of teachers are employed, and how are they secured?
   D. What effort, if any, is made to place the men?
   E. How many men are now taking instruction in industrial and trade subjects?

5. How is the educational work of the Army supervised?
   A. Who is responsible in the War Department for this instruction?
   B. Who is the responsible party at each Army post for the courses of instruction given?
   C. What amount of time is given to the work, and at what hours?

6. Attached hereto is a memorandum marked "Exhibit A" which lists the kind of information which has been proven to be of value in carrying on industrial and trade education in the country. Would such information be of value in carrying on industrial and trade education in the Army services?

7. In your opinion, should this information be gathered by the War Department for itself when needed, or should it be gathered by some other Federal department and used by the War Department?

8. To what extent do foreign governments educate enlisted men in the service in these subjects?—
   A. General education.
   B. Commercial education.
   C. Agricultural education.
   D. Industrial and trade education.

9. What additional appropriations does the War Department require in order to carry out its plans for the extension of the training of enlisted men in the service?

10. Is the War Department in a position to furnish within the next 10 days a statement to be incorporated in the report of the commission describing the present and proposed activities of the War Department in promoting industrial and trade education, and, in addition, what additional appropriations to the present budget it requires for the promotion of this work?

Exhibit A, suggesting the kinds of information which is now being gathered by the Government bureaus with a view to finding how far this information would be useful to the Navy Department in carrying on industrial trade courses for enlisted me, such as:

1. A thorough and detailed analysis and classification in each trade and industry, of occupations, operations, processes, practices, and trade demands upon workmen.
2. Fresh amd accurate information as to the progress made in the preparation of skilled workmen for the trades through apprenticeship, cooperation, and trade agreements.
3. Timely knowledge as to pronounced treatment of trade and industrial matters, and occupations, materials, and organizations which affect the proper education of workers to meet trade requirements.
4. Careful reports from time to time showing the progress, present conditions, problems, and tendencies throughout the country of the movement for industrial efficiency.

APPENDIX G.—QUESTIONS SUBMITTED TO INDIVIDUALS AND TO NATIONAL ORGANIZATIONS.

1. To what extent is there need for vocational education in the United States? Please discuss the question from the standpoints of—
   (a) Economic development.
   (b) Social betterment.
   (c) Educational values.
2. Is there need for national grants stimulating the States to give vocational education? Please answer this question from the following standpoint:
   (a) Are Federal grants needed to give the initiative to vocational education in the States?
   (b) Are Federal grants needed to help bear part of the burden of maintenance?
   (c) Are Federal grants needed in order to give prestige to vocational education through national recognition?
   (d) Are national grants needed in order to bring about a standardization of the work?
3. What kinds or forms of vocational education should be stimulated by national grants? Please answer from the following standpoints:
   (a) Agricultural.
   (b) Industrial.
   (c) Commercial.
   (d) Home economics.
   (e) The training of teachers in any of these lines.
   (f) Kinds of schools: All-time, part-time, and evening.
4. To what extent should the Federal Government aid the States through national grants for vocational education? Discuss this from the standpoint of the following kinds of education:
   (a) Agricultural.
   (b) Industrial.
   (c) Commercial.
   (d) Home economics.
5. How can the work of the Federal bureaus be extended to aid, through expert knowledge, vocational education in the various States? Please answer from the following standpoints:
   (a) Bureau of Education.
   (b) Bureau of Labor Statistics.
   (c) Department of Agriculture.
   (d) Department of Commerce.
6. Under what conditions should grants to the State for vocational education be made?
   (a) Should the grants be given as gratuities or under conditions?
   (b) If under conditions, what should these conditions be?

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63D CONGRESS, 2d Session } HOUSE OF REPRESENTATIVES { DOCUMENT No. 1004

VOCATIONAL EDUCATION

REPORT

OF THE

COMMISSION ON NATIONAL AID TO VOCATIONAL EDUCATION

TOGETHER WITH THE

HEARINGS HELD ON THE SUBJECT

MADE PURSUANT TO THE PROVISIONS OF
PUBLIC RESOLUTION NO. 16, SIXTY-THIRD CONGRESS
(S. J. RES. 5)

IN TWO VOLUMES

VOLUME 2. HEARINGS BEFORE COMMISSION

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